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ABSTRACT

Through a nationally-administered questionnaire and a literature review, this report explores developments in the psychology of self-planned learning. The introduction presents a review of the current literature, hypotheses concerning the motivation and methods of adult learning, and assumptions made for this survey. The questionnaire was administered to a national probability sample of 1051 adults aged 18 and over by interviewers on a one-to-one basis. The presentation and statistical analysis of responses to the questionnaire focus on various aspects of continuing learning through self-initiated learning projects: reasons people prefer to learn on their own; how they become involved; learning goals; number, type, and length of projects; suggested means of evaluation; preferred categories in which self-learning takes place; and use of supporting information for a learning project. Results are discussed in terms of four types of adult learners: (1) combination learners, who conduct their own learning projects and participate in some type of course; (2) self-initiating learners, who conduct their own learning projects; (3) formal learners; and (4) non-learners. Implications for professionals including librarians serving the learning needs of adults are discussed. Appendices contain a 20-page bibliography, glossary of terms, survey questionnaire on individual self-planned learning, and an explanation of interviewing and sampling procedures by Opinion Research Corporation, who administered the survey. (SW)

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SELF-PLANNED LEARNING IN AMERICA

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Without the help of these important human resources, the integrity of this study could not have been realized as successfully as it has been for a number of social professions. Particular thanks are due to the citizens of America for the time taken and their enthusiasm of response to this first national survey of self-initiated learning.

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PREFACE

Social science has largely been concerned with only those phases of learning that take place in the organized programs of institutions. Numerous studies have been undertaken; and they all focus on a similar general theme -- the effort to discover the characteristics of those people served by established educational institutions.

In a parallel manner, learning psychologists have largely grounded their theories on data bases collected from student behavior whether in elementary, secondary or college programs. In addition, the learning competencies for which instructional programs are designed are almost exclusively derived from the ways teachers teach as explicated for example in the various taxonomies of educational objectives.

Even librarians, in their modest way, view their guidance and instructional practices as a way of interpreting the formal subject collection to the user and not vice-versa. The patron is conformed to organized knowledge in a manner comparable to instructional designers who take their objectives and methods from the way teachers teach and not from the way learners learn. Certainly this is evident when in "training laymen in library use," they deliberately teach the patron to become adept at unlocking the secrets of the reference and indexing structures.

Thus, it has been with considerable interest that many professional consultants have followed the fresh approach to lifelong learning taken by Tough (1971) and later associates in investigating the behavior of people who design and conduct their own learning projects in contrast to the taxonomic approach so common to the instructional enterprise inferred from the way teachers teach. The impetus for this endeavor grew out of the almost incidental finding of the Johnstone and Rivera study (1965) that adults do initiate learning projects on their own.

Leaders in the librarians profession, to their credit, had anticipated these developments. For example, Asheim (1957) had strongly urged research into two fundamental problems of the librarian as a helping professional: lack of a supportive behavioral psychology and only a vague understanding of the impact of messages on people. This study addresses the first question and only some preliminary work has been done on the second.

This report, then, presents the findings of a study designed to explore the behavioral aspects of learning by the average citizen so that the impact of such behavioral patterns on the librarian's helping relationship could eventually be assessed. This project has not been a "user study" in the sense employed in traditional library and information science however useful these at times may be. Numerous user studies have been conducted and synthesized by annual and other reviews of the literature; but they are rarely conducted into the concerns and interests of the average citizen, or into the behavioral aspects of that sequential information processing which occurs within such individual client systems.

The results and benefits of this study are both methodological and substantive. In regard to methodology, one of the criticisms sometimes leveled at library research is the lack of generalizability of its findings. The problem of sampling methods in social science research has in large part been solved. But most of the populations from which samples are drawn for library research are not widely representative and in some instances give the impression of having been identified to suit the purposes of the investigator.

On the contrary, this study sampled the entire U. S. population. The methods of survey research are sophisticated enough to make the findings readily acceptable to a wide range of social scientists. This study will set a precedent in library research not only in the general reliability of its findings but also in its methodology. Perhaps as a result, library science may begin to emerge as one of the social sciences as Berelson had hoped. At the least it will place individual learning on a behavioral foundation -- something which the approach of user studies has not so far been able to achieve.

Another criticism, sometimes leveled at library research, is that it is noncumulative, indicating that the findings of various studies show little if any relationship to one another. This study was conceived, developed and executed within the framework of learning research and particularly those studies which have investigated the behavioral patterns of the human adaptive control organism. This study based on a national sample was designed to help initiate a new line of research into observable self-designed learning patterns.

A third criticism has been leveled at the dichotomy which exists between practical or demonstration research and the theoretical constructs upon which the profession is presumed to rest. In other words, the theories have in many instances not proved fruitful for experimental research. This criticism brings the discussion around to the substantive benefits to be realized from this study. Librarians have increasingly become involved with the innovative service aspects of independent study projects and community information referral centers. But the methods employed are those of such traditional functions as the reader's advisor, tutorial guidance, and resource referral. There has been little if any attempt to develop a professional helping relationship out of the components of a human behavioral cycle in an information processing and learning mode.

It is hoped that this report will be studied by all librarians but especially those who are in a position to lay a firm basis for a truly professional approach of the librarian towards client services. The faith and serious planning and commitment of various generations of librarians since Flexner and her associates will be realized. The intuitively perceived helping relationship will have a solid base in behavioral psychology as well as in actually identified patterns verified on the basis of a national study. Other professions will take note that librarians are ready and able "to come on board" the interdisciplinary teams required today to help community efforts move towards planned social change.

The administrator and supervisors in local library systems will find the "evidence" for a departure in service designed to respond to the emerging needs of people in the community. They should be encouraged to develop and defend professional helping roles such as the information broker and learning consultant which meet the imperatives for the relevant service changes expected by the 1968 President's Commission on Libraries. Thus, the basis of a rationale will be established for human relations training among librarians whose interpersonal and question asking behavior is often peremptory and thus inimical to the exploratory and transactional nature of lifelong self-planned learning.

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ONE

INTRODUCTION

It is only recently that some effort has been made to rectify the lack of a psychology of self-planned learning. Indeed, it was established only about 50 years ago that adults were capable of any learning at all (Thorndike 1928); and it has been widely presumed since then that adults learned in the same way children do. The work upon which a more widely pursued and critical reappraisal of human learning may eventually occur has been initiated in recent studies of self-planned learning. No one researcher can be credited as the single innovator, even though an overview of previous research findings (Brunner 1959) did seem to stimulate a number of new approaches among adult educators. A critical reappraisal has been developing as a result of the concern by a few educational leaders (Havighurst 1972; Kidd 1973).

Learning Design:

Until that time the predominant findings about adult learning had been taken from studies with an institutional focus. The findings of those studies encompassing clientele analyses were generalized across groups based on demographic predictors. In contrast, the Brunner overview focused on the need for research about the participant as a person rather than the act of participating in institutional programs. This need for redirection had also been noted a couple of years earlier by a librarian-educator (Asheim 1957).

In what appears to be the first time an in-depth investigation was conducted into the actual learning behavior of a sample of adult subjects (Houle 1961). This study challenged educators by concluding rather explicitly that the theory and practice of continuing learning were based on an understanding of how a sample of mature people approached the tasks and opportunities of adulthood. But when it comes to the population as a whole, it is only recently that the minimal requirements of adult coping proficiency have been investigated (Northcutt 1976); and these skills are not high for an all too large segment of the population.

In any event, under the leadership of what might be called the Chicago "school," other investigations were conducted into carefully specified

aspects of the individuals whole pattern of educational effort (Sheffield 1962; Ingham 1963; Litchfield 1965; Tough 1965). These studies were based on Houle's premise that the desire to learn may not be shared equally by everyone just as is the case of any other human characteristic. Later work by these same researchers appears to be challenging this assumption rather successfully that learning is much more widespread than previously known.

The basic concept used for assessing and measuring the deliberate learning efforts of respondents is the learning project. This concept has been successfully used in various studies (Tough 1971; Armstrong 1971; McCatty 1973; Fair 1973). Several other studies using the concept of a learning project are currently in progress. Tough, for example (1971, p. 6), has defined a learning project as, "a series of related episodes, adding up to at least seven hours. In each episode, more than half of the person's total motivation is to gain and retain certain fairly clear knowledge and skill, or to produce some other lasting change in himself." Episodes may be related by the content of the desired knowledge and skill or by the use to which the knowledge and skill will be put.

Other researchers have used minimal time criteria varying from six to eight hours ranging over periods of time. These restrictions have been developed in order to exclude scattered and unrelated learning efforts from being classified as a learning project. On the one hand, a learning project may be active for at least seven hours during a consecutive six-month period, but might of course continue beyond this period. On the other hand, a single sustained and uninterrupted learning episode lasting seven hours, although rare in occurrence, may be acceptable to particular researchers. Such definitions, however useful they may be appear to resemble more the institutional adult education movement's various attempts to specify a formal learning experience than they do the developmental patterns of self-planned learning.

The concept of an episode is sometimes taken as the basic unit around which the development of a learning project is constructed. Tough (1971, p. 7) has defined a learning episode as, "a well-defined period of time that is held together by the similarity in intent, activity, or place of the thoughts and actions that occur during it. The episode has a definite beginning and ending, and is not interrupted for more than two or three minutes by some other activity or purpose." Episodes are not just mental constructs superimposed upon human behavior but correspond to actual "chunks" of time and activity into which most adults appear to divide their working hours. This "span of attention" may each be as brief as ten minutes or last more than an hour.

One criterion of a learning episode is that the learner has in mind certain knowledge and skill to be obtained which is fairly clear and definite. In addition, the learner is presumed to be clear about the desirable application of that knowledge and skill to the question or problem on which an answer is being sought. Episodes of activity which lack clear learning goals are excluded from this definition. For example, unfocused

reading of a newspaper, unplanned browsing in a library, aimless playing of a sport for relaxation may serve to illustrate episodes which do not qualify as learning episodes. Also excluded is the entire range of non-deliberate incidental learning.

Another basic criterion of a learning episode concerns the learner's motivation when engaged in a learning activity. The adult's intent to learn is expected to constitute at least fifty-one percent of the total conscious motivation when beginning a learning episode. A distinction can be made between a learner's immediate reasons for engaging in an activity, and more long-term goals or objectives. The adult learner can be strongly motivated by some distant personal goal but that individual must first learn, modify personal behavior, or change a set of attitudes before seeking to attain that final objective. A relatively short segment of time is classified as a learning episode when the learner's intent to learn is more important than the sum of all other immediate reasons for engaging in that activity.

In a learning episode, the adult must wish to gain and retain certain knowledge and skill for at least two days. Quick information seeking, such as asking directions to locate an address, or reading instructions on how to assemble a gadget, is not normally intended to be incorporated into more lasting knowledge. Transitory and non-sequential activities are therefore not classified as learning episodes unless they happen to be part of a larger learning effort. A learning project is excluded from research study when it is classified as being undertaken for credit. This occurs when more than half of the learner's total motivation is to obtain a degree, certificate, diploma, some license, passing a test or examination, completing an assignment for a course, or performance upgrading related to a job or profession.

The lifespan of a learning project refers to the duration of a series of episodes from inception to the time when that study is definitely discontinued. A project can be ongoing without necessarily being active; that is, a participant may engage only occasionally in learning episodes related to a particular area of concern or content. It should be noted that the research survey period of one year previous to the interview may contain the entire lifespan of more than one project. Obviously, starting and discontinuation dates of many self-planned projects do not always coincide with the arbitrary period covered by a research interview.

The lifecycle of a learning project refers to the pattern of learning activity throughout the lifespan of the project. Some projects are characterized by a concentrated and relatively uninterrupted series of learning episodes. Others appear to have intense periods of learning activity interspersed with dormant periods of time. These patterns of fluctuation as learning activity are refered to as the lifecycle of a learning project.

The life coping skills are not evenly distributed throughout the population. Beside the demographic characteristics there are a number

of sociocultural variables which on the basis of survey research are presumed to be correlated with information processing behavior (Robinson and Shaver 1973). The Appalachian Adult Education Project (Hayes & Shelby 1973) defines coping skills as the abilities to (1) define a problem as a need for information; (2) locate information about the problem; (3) process the information, and review its uses; and (4) apply the information to the problem. These skills need to be learned within the "subject" areas in which most adults need information to cope effectively with the problems of everyday living.

This recent line of research being described here has been conducted into the observable and interpersonal behavior of real people who actually design and conduct their own independent learning in contrast to the traditional taxonomic approach to learning as inferred from the way teachers teach (Bloom 1956; Krathwohl 1964; Simpson 1966). Instead of asking teachers how people learn, a wide range of citizens have been surveyed and their articulations have been recorded of how they themselves have planned and executed their own learning projects (Johnstone and Rivera 1965; Tough 1971). Since then, over twenty other studies have been completed in limited geographic areas employing variations of the Tough model among respondents ranging widely in demographic and socioeconomic backgrounds.

These studies have surveyed people in a variety of categories, such as age and educational level as well as in occupation, salary, marital and other groupings. Two of these studies have focused emphasis on illiterate adults and those with less than a 6th grade education (Peters and Gordon 1974; Field 1976). Most recently it has been found that patrons who use library outlets plan and conduct self-learning projects in a manner similar to self-learners investigated in other studies (Penland 1976).

Episodic and Sequential Information Processing:

The development of a model of intrapersonal information processing rests in part on the work in neuropsychology such as bionics and artificial intelligence. Episodic information processing is assumed to be the behavioral reciprocal of a decision-making model (Tulving 1972; Schroder, Driver and Struefert 1967). This body of work appears to have been sufficiently verified; at the least, it is presumed to validate the concept of episodic information processing so commonly accepted in the information sciences. The processing of informative data follows a cycle of behavior which includes awareness and description, analysis and diagnosis, innovative acceptance and application of data -- the behavioral analog of patterns which have been derived in logical transformations from first order models of reality.

Thus, sequentiality is a product of various interacting variables and consists of a time dimension within which the person's involvement is maximized before levelling off and dissipating. This involvement was

initiated by either need reduction or goal attainment, or both -- a more functional approach in motivation than "information need." In this regard, content is considered to be the "leavings" of learning processes rather than the architectural structure of traditional subject knowledge.

Content emerges from the goals of the learner which are determined by the sociocultural and demographic variables. Content is the deposit or product which is left behind and may be taken as evidence of the fact that the learner (attribute variable set) was involved (process variable set) with sources (treatment variable set) over time. Content is more process oriented towards the daily concerns of the learner than it is subject oriented.

Reallife people have developed individualized and complex cognitive structures. When a person communicates a point of view or a question or an interest, the words are representatives of internalized "schemata" as well as parts of a dynamic process (Monge 1972). Every sentence uttered by the learner can say something and may do something. In everyday life people find it more practical to articulate and question an area of interest or concern than to take a topic and develop it in subject fashion (Chickering 1969). Thus systhesis as a completed product should be differentiated from systhesizing as a mode or examination. The essence of this mode is the seeing of a new picture, the creating of a decision as a prediction about the future.

The research into individual self-planned learning appears to be moving towards including the dissemination as well as the utilization aspects of the more general model of knowledge production, dissemination and utilization (KPDU). Obviously the work of Tough (1971) and Dervin (1976) has thrown an emphasis on the aspects of utilization which have long been neglected in KPDU research. A growing concern has appeared for the additional variables of content of "information" sources and the major methods of learning employed by individuals.

Parallel with this development of a behavioral analog has been the increased attention given to the first order models of reality which can be inferred from empirical evidence. From his focus on the individual's whole pattern of educational effort, Houle (1961) proposed a theoretical typology of how self-actualizing adults motivate themselves through the tasks and opportunities of adulthood. Recognizing that categories of human activity are never discrete, Houle classified continuing learners as (1) goal-oriented -- those who use education as a means of accomplishing clear-cut objectives; (2) activity-oriented -- those who utilize education as a means of satisfying social needs; (3) learning-oriented -- those who seek knowledge for its own sake.

This theoretical framework was carried one step further, initially, by Tough (1971) in focusing on the individual's deliberate efforts to gain and retain certain definite knowledge, skill or attitude. Such an approach may complement the more usual reliance on the demographics and socioculturals; i.e., situations, life forces and negotiations within which the person develops and passes hi/r days.

In these recent studies, educative activity is considered to mean conscious voluntary effort on the part of an individual adult to learn something. The usefulness of this broad interpretation, bearing heavily on the perceptions of the learners themselves, is supported by findings about the prevalence of self-teaching (Tough 1971) and by more research-based observations (Brunner 1959). "Learning is a change in responding that involves abilities, emotions, attitudes and all other behavior that results from the activity of the learner" (Sorenson 1964, p. 404).

The acquisition of knowledge through concept learning differentiates among three steps in the learning model: situation description and clarification; analysis of relations and data gathering; predicting (guessing at) what will happen. Selectivity, differentiation and patterning are processes that help people clarify the nature of "things." When a new "thing" is noticed, a person unconsciously asks "what is it?" To increase knowledge, the person makes discriminations about its parts which are usually concrete components or attributes. But new knowledge can also be clarified by naming, abstracting, or categorizing it.

Learning does not begin unless the organism is presented with relevant data in the form of stimuli (Pressey and Kuhlen 1957). In other words, a stimulus event must be so novel, so exciting or threatening that it produces orientation and arousal; or the individual must choose to attend to some aspect of the environment (Nesselroade and Reese 1973). During the subsequent episode of behavior, the surprised individual selects some things and not others to attend to, begins to differentiate between things, and then patterns what is seen or heard (Tulving 1972).

Many people plan their days or at least do have an orderly orientation to them (Miller, Galnter and Pribram 1960). It is not just a case of falling into a routine except perhaps for the most fatalistic of people. There are constraints on behavior and these imperatives tend to influence or persuade the individual (Janis 1959).

Meaning occurs in an individual who is a unique product of the situations to which s/he has been exposed throughout life. It follows that the coping skills and the learnings are also unique. In fact, the content or product of the sequential information processing is relative to the manner in which an individual human entity may define personal need and interest. In this context "information" consists of any data whatsoever which may have stimulus or surprise value to a particular individual.

The environment includes anything which may be a source of stimulus for the individual. The environment (channel) is the carrier and presenter of any data which causes the individual to pay attention and sustain that awareness. The environment will include the totality of audiovisual and nonverbal channels as well as the more traditional carriers such as books, programs, journals. Only the individual can determine whether any of these channels are pertinent; and the "information" sought is largely processes rather than subject-oriented.

Motivation as stimulated by perception is considered to be most influential in a potential learner's initial decision to participate and also in its effect on self-educative behavior. These two aspects of motivation, participation and learning, are highly interrelated but can be examined separately. Participation is assumed to be a prerequisite to learning. One of the motivational factors contributing to a potential learner's initial decision to participate appears to be that person's preferences as to methods of participation. In many publications, the term method refers to the techniques and devices used by the teacher in teaching rather than how the learners arrange themselves for participation in educative activity (Verner 1962).

It has been stated by some researchers such as Blackburn (1967) that the extent to which the modes of participation appeal to the learner could greatly influence the initial decision to participate and the subsequent levels of participation. These researchers believe that one of the significant factors contributing to apparent non-participation in institutional programs, after an initial interest has been expressed, is the individual preference to learn the subject matter by methods other than those offered.

Educative behavior will be persistently pursued if it enables the individual to experience basic satisfaction. Unfortunately, learning all too often is likely to be perceived as an evaluation situation in which an individual may become sensitive about hi/r own sense of worth. Thus, individuals with a strong fear of failure avoid enrolling in adult classes. In talking about persons of low socio-economic status in those in the Appalachian region in particular, Weller (1965) suggested that: "Fear, a tremendous sense of inadequacy, difficulty in expressing oneself, inability to handle personal differences, almost antisocial behavior in groups other than one's own -- all these prevent group participation."

In establishing his approach, Tough did not deny that motivation may be inner directed as Houle had inferred from his findings. The distinction which was made between one episode and a series of episodes became a defacto and operational definition of a learning project. In doing so, however, Tough was careful to give numerous examples of episodes, suggesting that these periods of time grow out of the transactional nature of everyday life. Learning projects, on the other hand, devolve around the strategies and tactics required by longer term negotiations such as self-educative activity.

Regardless of whether the motivation is transactional or negotiative, the individual's attention is considered to be focused on a dynamic situation almost exclusively instead of on the topics of subject knowledge as presented in the traditional curricula. This "revolutionary" reorientation to adult learning, established in the many studies based on Tough's research model, is supported by the findings of other researshers (Derwin 1971, 1976; Reisser 1973). As a result, the links in the mapping matrix between the behavioral analog and the more primary order model of information processing has been strengthened.

Behavioral Analog

Individual learning is conceptualized within the frameword of the various theories of learning (Hilgard 1966). At the most general level learning is considered to be a change in behavior, whether short- or long-term and a response to a transactional environment (Sells 1963). This response to negotiation can be expressive (Miller, Galanter and Pribram 1969), or coded (Pribram 1961), or be indeed any combination of these responses. Self-initiated learning, or sequential information processing, is more likely to be problem- or complaint-oriented than it is likely to emphasize interests and subject content (Tough 1971; Childers 1975; Dervin 1976). Independent self-planned learning is largely developed within the context of situational transactions.

Despite his general conclusion that the human entity is often a shelter-seeking organism, whether physically or mentally, Berelson (1964) musters a considerable body of evidence which shows that most human organisms will spend a great deal of energy in attempting to change the environment. Thus, this present study is interested in the learner's attitude towards self-planned education to the extent that it is reflected in his behavior (Havelock 1970, 9:19) which is usually more accurate than asking about intrapersonal matters directly such as attitudes or needs.

It is difficult if not impossible to define information needs; and the literature does not provide much help in arriving at a consensus. Actually it seems more advisable to accept the position that "need" is a theoretical construct which has developed to explain the thrust or progressions in observed behavior (Childers 1975). Such vectors of behavior cannot be observed directly but only through what Childers (p. 16) calls the traces of behavior, such as:

> How people use things -- the mass media, informal communication networks, social services.
>
> How people live -- habits of economic behavior, homemaking patterns, educational environment.
>
> What people are -- conditions of health, domicile, family and self, as well as other sociocultural variables.
>
> What the individual says he needs for himself, as well as what the professional or expert says these needs may be.

It is necessary to probe into the patterns of what people do with the information to which they have been exposed and to which they pay attention. Previous studies including the sociological surveys and the user studies of the information processing professions have been largely confined to channel and media preferences. These studies have been useful in suggesting ordinal displays of the channels and the media based on correlations of them with demographic and sociocultural independent variables.

Various findings from the literature suggest the wide ranging impact of received information on the lives of the people concerned. Some of these conclusions border on the unfortunate assignment of real human beings to the categories of a unidimensional ladder of information utilization. Of course, the social mores dictate the provision of an equal opportunity for all people, based on an assumed commonly accepted process for all citizens. On the contrary, self-planned learning makes it possible for any individual to route personal experience into that peculiar combination of modes, where it will develop the most successful personally (Merrill 1975).

Learning involves the testing and matching of outcomes against stored knowledge as well as the modification of perceptual connections. Competence and knowledge involves the building up of new configurations of behavior rather than simply adjusting to conditions in a more or less fatalistic manner. Obviously, there are a number of psychocultural variables which are correlated with the configuration of knowledge seeking and utilization (Havelock 1970, Chapter 4).

Competence in learning is a patterned activity designed to perform a coordinated set of behaviors in order to accomplish a goal. In some instances, learning may be limited to the S-R phenomena where behaviors are chained together through conditioning and reinforcement (Skinner 1961; Gagne 1970). Competence in human entities, however, does not only arise from irreversible connections between receptors and neurological "grooves;" people do have flexibility and the power to create new forms and entities as evidenced by the enormous range of continuing learning (Reitman 1965).

If the participant is asked to select a present interest, based on past experience or current choice, and translate it into questions, then what may have been a static interest will become energized and given direction. Self-planned learning projects are more successful when initially developed around specific questions which have been identified as falling into three categories (Anderson and Moore, 1960; Mackay 1960; Aquist 1965; Reisser 1973):

> Intransitive questions explore the nature of some subject; What is it? Where did it come from? Since they are predicated on intransitive verbs, answers elicit reports in terms of description, definitions or comparisons.
>
> Transitive questions with both a subject and direct object denote a dynamic relationship. Since they probe about the effect of one thing on another response requires explanations of cause and effect, or connections between fact and theory, translations and evaluations.
>
> Subjunctive questions explore possibilities and syntheses of assumptions, cause and effect. They predicate change, new interpretations and knowledge based on conclusions, predictions and integrations.

Intrapersonal information processing follows in general the traditional steps of stimulus, interpretation and response regardless of whether the stimulus is presented in a learning or a communicative situation. The S-I-R process is presumed to rest on a lower-order (S-R) neurological syntactical function called a TOTE (test-operate-test exit) servomechanism (Miller et al 1960). It should however, be noticed that this biological TOTE is much more sophisticated than the cause-effect (C-E) processes of the physical universe.

The traditional information processing model (Shannon 1948) limits the consideration of the human adaptive control organism to that of a channel; but such a model is of questionable value when considering the real time complexity of the human entity. In order to offset these constraints, the transmission of stimuli within the body as well as the integrative capacity of the human processing system have been examined by biotics and traditional experimental psychology (Adrian 1963). Structure, meaning and concept formation are all considered to be products of the intrapersonal information processing of the system (Garner 1962). In information theory noise is undesirable; whereas in communication theory it may represent such a necessary process as the recalibration of the encoder-decoder or interpretor (Garner and Hake 1951).

Many attempts have been made to explain the patterns and the difficulties in human goal setting (Buhler and Massarik 1968). Some people may be able to think conditionally about themselves without confusion or hesitation (Guilford 1967). Others may be more conceptually interdependent within a resource framework (Harvey, Griffith and Kolb 1968). Still others will be more cognitively flexible, closer to the open minded end of the attitude-stereotype scale (Rokeach 1960). In any event, few people escape from some of the psychocultural handicaps (Havelock 1970, Chapter 4).

From viewpoints such as these and many others, most people have great difficulty in goal formulation. The variety and complexity of the process has been explicated in survey research in at least 60 conceptually distinct steps (Tough 1971, Chapter 6). Obviously both the learner and the helping consultant will be confused if goal setting stems from an end product retrieved from the parking categories of classified knowledge (Brookes 1974) or acquired from the organized tracking system of an instructional technologist (Cronbach and Snow 1976). As a result, a fresh look has been taken of the way people actually conduct their self-planned learning projects (Tough 1971).

The theoretical model of information processing of which learning is a part and upon which a behavioral analog has been taken to rest is a product of the synthesis of researchers on sensory processing (e.g., Broadbent 1958), researchers on learning development (e.g., Cronbach & Snow 1976) and the cognitive psychologists (e.g., Weimer and Palermo 1975). While different people use the same machinery of perceiving, coding, storing, and retrieving, variations in people's experiences do lead to different cognitive structures. Even small modifications in environment and experience can make large differences in knowledge structures

including the learner's knowledge about how to process information even though it may be true that the underlying machinery is the same for all learners.

Area of Assumptions:

A systems approach to the self-planned learning of individuals in America should accept the multi-dimensional aspects of the various components. These components have been fairly well articulated in the literature of attribute-treatment interactions as a three-dimensional matrix of the variable sets of attributes, treatments, and tasks. These variables are strikingly similar to the variables considered under the librarian's terminology "information needs and interests."

The components and patterns of respondent designed learning projects become the initially hypothesized dependent variables of the total study. It is also hypothesized that the following demographic, socioeconomic and sociocultural categories will serve as independent variables: age, sex, marital status, race, ethnic roots, education, occupation, class (upper, middle, working, lower), income, residence, mobility, as well as such items as religion and religiosity, dogmatism versus openness, certainty versus uncertainty, rural versus urban residences and other factors hypothesized to have an influence on the learning process which have been widely validated and verified (Robinson 1975).

Thus the assumptions underlying the study as summarized in the attached Figure grow out of the literature analyses. This work sought to identify the dynamic and functional models of actual learning rather than to develop a precis of a subject area of knowledge. The definitions related to the following assumptions are presented in the appendices:

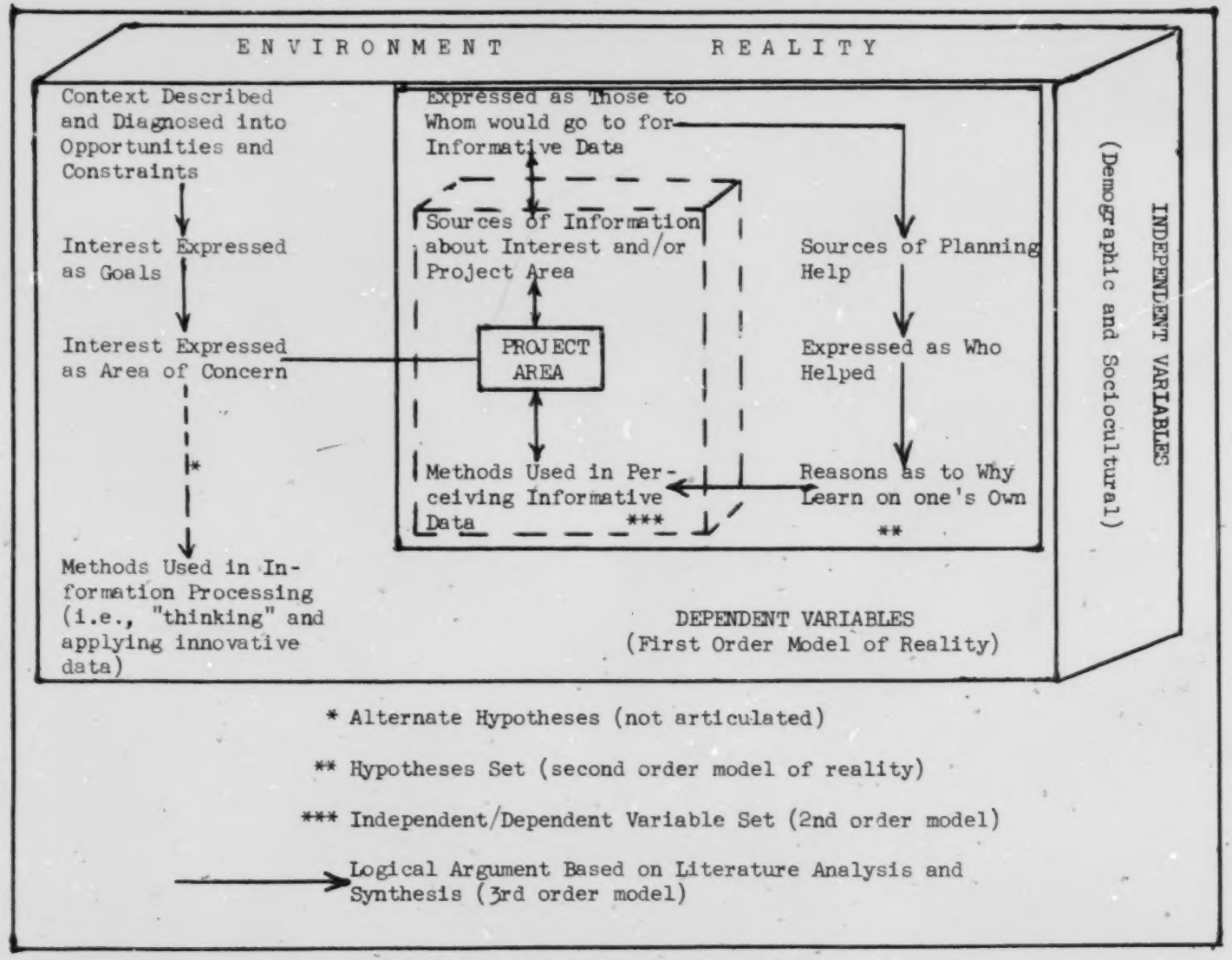
Complex interaction of factors predisposes the individual to seek and process information such as social norms, personal values and attitudes, specific situation, previous learning history, sense of helplessness, anomie, fatalism, education.

Relationship between information sought and processed and subsequent decisions and activity can be explored by associations between remembered information related behavior and remembered subsequent activity.

Increased knowledge is an effect of mobility as well as vice versa, even though perhaps only correlations can be obtained with such factors as:

Changes in the quality of life -- for the individual or community, in both the long and short term.

Changes in service demands on local and non-local agencies.


ENVIRONMENT
REALITY
Context Described and Diagnosed into Opportunities and Constraints
Interest Expressed as Goals
Interest Expressed as Area of Concern
*
Methods Used in Information Processing (i.e., "thinking" and applying innovative data)
Expressed as Those to Whom would go to for Informative Data
Sources of Information about Interest and/or Project Area
PROJECT AREA
Methods Used in Perceiving Informative Data
***
Sources of Planning Help
Expressed as Who Helped
Reasons as to Why Learn on one's Own
**
DEPENDENT VARIABLES
(First Order Model of Reality)
INDEPENDENT VARIABLES
(Demographic and Sociocultural)
* Alternate Hypotheses (not articulated)
** Hypotheses Set (second order model of reality)
*** Independent/Dependent Variable Set (2nd order model)
Logical Argument Based on Literature Analysis and Synthesis (3rd order model)

Self-Planned Learning Research Model

Changes in the individual's decision-making process and habits or in the actual decisions made.

Penetration depth of media of communications varies directly with the saturation efforts of an orchestration of media as revealed by proportion of aware (informed) or unaware respondents.

Index space includes all of those items in knowledge and information space which serve a linking function or point to those sources where informative data may be found.

Linking roles may be considered as a subset of index space for such human interventions or services as organizing a community for a welfare protest, authorizing the issuance of food stamps, hiring an applicant, accepting a child into a day care center, broadcasting news of a welfare service, publishing a homemaker's directory or telling someone the hospital's emergency phone number.

Resource as an entity which can deliver data from knowledge and information space may be composed of a channel, content data, and a treatment (rhetoric and intentions).

The time lag between the creation of new knowledge and its acceptance is particularly a function of the information seeking and learning behavior of individuals. Related to this phenomenon is the tendency of the follower or late adapter to seek out sources such as news media whose viewpoints are known to be similar to hi/r own (Freedman and Sears 1965). This does not mean that individuals always reject incompatible attitudes and beliefs; only that there is a tendency to do so when the imperatives of reality are not as strong as they may be at other times (Rokeach 1960).

An important variable in the search patterns of the individual is the reliance on friends and relatives as distinct from more impersonal sources (Lionberger 1960). A modification of this variable is the distinction between local as opposed to nonlocal sources when seeking help or information (Carlson 1965). In general, people who are open to new ideas and are more inclined to champion change processes usually seek out impersonal and nonlocal sources over the local and more familiar personal ones (Rogers 1962). The innovators not only employ a greater number of sources, but they seek out those where new ideas based on research findings are more likely to be found (Coleman 1966).

Predictor variables such as the demographic and sociocultural characteristics are frequently employed diagnostically by many consultants in client helping systems. One researcher (Dervin 1976) has however found that these variables account for only a small amount of the total variance -- not more than 10%. Establishing an almost entirely individualistic perspective for analyzing the respondent's situation, Dervin has probed for those "constructs" through which people transform retrieved subject source data (Information 1) into "surprisefully" relevant data (Information 2) by means of planner guidance (Information 3).

Social science has made a serious attempt to describe and subsequently predict the behavior of individuals on the basis of attribute variables such as age, race, occupation, "personality" (sociocultural traits), education, literacy. But so far apparently these have proved insufficient; and it appears that no single set of variables is sufficient to describe the behavior patterns which may be called learning. The variable sets employed need to be more representative of the situation within which the individual is involved in a transactional mode.

In an attempt to replace the limited usefulness of the traditional predictor variables, Dervin has sought to explicate the assemptions underlying subject source, relevant data and planner guidance: "In my Phase I study, I made an attempt to tap situational concepts -- situation duration, embeddedness, movement state; e.g., is the person trying to choose between two options? is the person trying to remove a barrier to movement? is the person flailing around with options? is the person trying to understand the situation/ system?" (Letter to principal investigator 1976).

This important line of research investigation complements the work of Tough and associates as well as the work of Reisser (1973) in exploring self-educative behavior. Employing a model of interpersonal information processing, the linguistic behavior of respondents in a learning mode was examined. On the basis of these analyses, the processes of transforming objective data into subjective data were in fact accomplished. Context specific learning apparently evolves through several "developmental" stages.

Such are the models which are considered to be useful in taking an analytic approach to learning whether episodic or sequential because they help to indicate a complete cycle in the intrapersonal processing of information. But since it is difficult so far to observe the processes inside the "black box" of the human organism, it is necessary to identify the observable behaviors which reflect the intrapersonal examination mode. The complementary reporting mode requires not only the ability to communicate but also that clients be helped by professionals (Barnlund 1968) in order to offset the numerous sociocultural and personal handicaps (Cohen 1964).

The ability to structure and articulate response to a problem requires some organization of various components into a plan and a personal program for learning. With clients just emerging from the transactional contexts of reallife, it is not appropriate to focus on subject content, but rather on the structure and processes which determine the content. Any growth in competence should involve the learning of simpler behaviors and the combining of these elements into organic and developing programs through the following modes (Reisser 1973):

> Data gathering and examination mode wherein the client identifies, describes, defines or compares one concern or interest with another as they emerge from a transactional context.

Analytical mode wherein the learner explains the data in terms of assumptions and correlations, relates it to other relevant dimensions for enhanced meaning, and transforms it into an articulate program to enhance communication.

Synthesizing mode wherein hypotheses are tested or demonstrated in a set of skills or in creating a new work from which conclusions are drawn and predictive decisions are made.

The vast majority of citizens are not familiar with formal modes of intellectual inquiry. Their continual involvement in the kinetic episodes of real life are not evident to them as extensions of more formal modes of examination (Knowles 1973). If citizens as clients can be helped to see an organic and logical relationship between their own natural methods of thinking and the way knowledge is composed (Neelemeghan 1975) (and eventually classified informal and more action oriented indexing systems), then the learning consultant can be a more effective helping professional (Brammer 1973).

TWO

METHODS AND PROCEDURES

There are three settings in which adult learning normally occurs: formal adult education, non-formal adult education, the everyday activity of individuals (which gives rise to deliberately structured learning efforts) and incidental learning. A number of studies have been conducted into the learning accomplished by adults who are engaged full-time in formal education. But other than library user studies, the great variety of incidental learning in which adults engage has been neglected. The specific focus of a few of the newer studies are the major and deliberate learning efforts of individuals and groups of adults who are over 18 years of age.

It is expected that adult learning would occur as a matter of course within adult education settings. But there are many life situations which require adult learning behavior and which are not catered to by adult education programs. As such, the phenomenon of adult learning becomes a wider and more universal phenomenon than adult education. For example, a learning situation may result from what has called the "basic tasks of living" (Havighurst 1972). Adults are characterized as facing developmental tasks which require the adult to learn new knowledge, adjust to attitudes, change behavior, seek information, acquire new skills and improve existing performance levels. It is evident that much of this learning will be accomplished by the adult learner outside of what is normally called an adult education setting.

An unknown amount of this learning behavior occurs incidentally, that is, in bits and pieces during everyday activity, often without planning or direction. Brief episodes of information seeking, unconscious imitation of another person's conduct, unplanned improvements in a physical skill, are examples of incidental learning. Adults also learn in many unanticipated ways: empathy role-taking, accidentally, from shock or they may have a "surpriseful" experience and suddenly hit upon the solution to a difficult problem in the middle of the night.

Empirical findings increasingly indicate that adults often take the initiative in devising major learning projects for themselves in an effort

to modify their own behavior. They may become their own teachers or turn over the responsibility of directing a learning effort to another individual, group or object. A learning experience may begin through incidental awareness and then develop into deliberate activity. An adult may back into, so to speak, the realization that s/he has a need for new knowledge or skill and then deliberately set about structuring a learning effort to meet this need.

Other findings suggest that a large segment of the population uses many approaches to learning other than traditional ones such as enrolling in a course or attending an educational program designed for a group. Self-planned learning seems to be an extensive activity; it may turn out to be a very efficient way for individuals to learn many of the skills and knowledge that are needed. It may also be that different individuals have different capacities for learning based upon a number of factors such as attitudes of spouses, personal attitudes toward schooling, amount of time available, and stages in the family life cycle of people who do not conform to such findings (Houle 1961, p. 6):

> While the clientele of each institution has its unique features, certain characteristics are common to all the groups served. In general, high income groups are more likely to take part in educational activities than low income groups. Participation is also positively related to the size of the community, the length of residence in it, and the number of different kinds of educational activity available. People with certain nationality or religious backgrounds are more active than those with other backgrounds. Age is important: the very young adult seldom takes part, but there is a sharp upturn in the late twenties, a fairly constant level of activity until the age of fifty, and a decline afterward. Married people participate more than single people, and families with school-age children more than families without them. Many more professional, managerial, and technical people take part relative to their number in the population than do people from other occupational groups; next in significance are whitecollar and clerical workers; then skilled laborers; and lastly, unskilled laborers. But the most universally important factor is schooling. The higher the formal education of the adult, the more likely it is that he will take part in continuing education. The amount of schooling is, in fact, so significant that it underlies or reinforces many of the other determinants, such as occupation, size of community, length of stay in it, and nationality and religious backgrounds.

The main contribution of these recently undertaken patterns of research study lies in the description and analysis of the various characteristics of deliberately planned learning among respondents. This type of research benefits from establishing measures of participation and categories of knowledge and skill as well as describing the social relationships observed within participation. This approach to adult learning could be advanced to a significant degree by being tested with a sample of the entire U.S. population.

A considerable amount of work has already been done in the area of independent self-planned learning. An initial and provisional model of a citizen's independent self-study can be based on the findings of survey research into the nature and design of learning projects among a wide range of adults in the United States and Canada.

A continuing self-learner is considered to be an individual (usually adult) who plans and designs an independent learning project. For the purposes of this study, planned and sustained attention to one topic will be taken to define a learning project. The minimum often established, of seven hours spread over at least three days, is comparable to the definition of a learning experience posited by the Adult Educational Association of the U.S.

One investigator (Collican 1973) employing the minimum time limit of one hour discovered the phenomenon of "quick learning -- completed projects which could be learned in less than seven hours. Such initially short-term activities could develop into longer projects depending upon the strength of the initial stimulus. On the one hand, there may be no particular magic in length of time except the "halo" effect which carries over from an institutional influence. On the other hand, learning psychology may have to be revised to include a deeper understanding of the role of so-called "incidental" learning in the development of an individual's more deliberate learning projects.

Self-planned learning comprises a person's deliberate attempt to learn some specific knowledge and/or skill where that individual assumes primary responsibility for planning not only the why, but also the what, how, when and where to learn. That person may attend a course as part of the total learning effort or seek materials or advice from a resource person in an institution. But in doing so, s/he retains control of and responsibility for deciding what resources and activities to use each time.

In undertaking a learning project, the learner hi/rself largely decides whether to proceed with the project as well as what in a general way should be learned instead of just drifting into some activity. The apparent random activity at the beginning of some sequential endeavor,

like a learning project is probably due to the phenomenon of human perception. At first, a diffused perception is "suffered" until through what appears to be chance some patterns emerge in the transactional situation.

Components of Investigation:

A basic question is faced at the beginning of every learning project: the extent of responsibility for the detailed planning -- what and how the learning should occur during each episode. Tough adopted the label "planner" to refer to the person or thing that did most of the detailed day-to-day planning in these individual learning endeavors. This concept of planner is needed in order to classify the source of the plans and decisions, not the motivation or resources used to obtain subject matter.

The concept of planner encompasses the person or thing responsible for developing the majority of the learning episodes. The planner is responsible for more than half of the detailed day-to-day planning and the decision making processes in a learning project. The planner makes the majority of the decisions about what to learn (the detailed knowledge and skill) in each learning episode, and/or about how to learn (the detailed strategy, activities, and resources). The planner may also decide when to begin each learning episode, and the pace at which to proceed.

Method categories can be considered as either group or individual. Group methods are those which a potential learner can utilize, for participation in educative activity, which normally permit direct personal interaction by two or more learners with a teacher(s) in face-to-face situations. In such instances, a number of individuals are involved in an educational activity simultaneously. Individual methods are those which a potential learner can utilize for the educative enterprise entirely alone or with direct or indirect association with a teacher. Four types of planners have been identified:

Self-planned learning: In much self-instructional effort the learner assumes primary responsibility for planning the entire project. The individual may seek help and advice about these decisions from a variety of individuals and materials, but that person retains the control of and responsibility for deciding what resources and activities to use each time.

Group-planned learning: The learner may decide to attend a group and let the group (or its leader or instructor) decide what and how to learn. A group of this kind may even have a minimum of 3-5 persons, such as a course, workshop, conference, or informal assemblage of people with common interests.

One-to-one learning: In some learning efforts, the planning and deciding of what to learn and in what order is handled by one person other than the learner who helps that individual in

a one-to-one situation. One helper (or instructor, teacher, expert, or friend) and one learner interact, usually face to face, although it could be by telephone video link or correspondence. Even if as many as four learners have received "individualized" attention from one other person at the same time, it is included in this category.

Resource-planned learning: In these learning projects, the major part of the detailed directions as to what to learn and what to do at each session is obtained from some material resource (programmed instruction, tape recordings, series of TV programs). The learner follows the programs or materials as they unfold with instructions of what to do next. Tough called this planner type a nonhuman resource; but other researchers have named it object-planned, or inanimate-planned.

In most learning projects, one of these types of planners ("teachers") predominates. A few learning projects, however, may not be clearly marked by a single major planner. If no one planner is responsible for the majority of decisions, the learning project is classified in a residual category called mixed planning. In any event, this planner (or consultant in the institutional sense) is to be distinguished from the various and many sources from which "information" or subject matter may be retrieved.

That which is sought for retrieval, however, remains in many of these studies of self-learning not as clearly differentiated from the source of planning help as one might expect to see. To people involved in reallife projects, information is more of a process than a product that one would expect to find in a subject search. Such sources of subject data usually sought by the individual skilled in library use include the numerous retrieval entry points explored in the typical institutional "user" study (Gallup Organization 1976).

Attempts have been made to rank the usefulness of reallife information sources; and these previous findings indicate that most learning projects are initiated for practical reasons -- to acquire knowledge and skill related to one's job, home, family, sport, or hobby. A considerable percentage of projects predominate in the areas of vocational or occupational competence as well as home and family life, despite variances within different groups of adults. The percentage of learning projects undertaken decreases in the areas of public affairs, religion, and general liberal education.

Instead of asking only one general question, several different ways of asking the person to recall additional projects have been tried in previous research. Interviews of up to two hours or more devoted exclusively to discovering all the person's learning projects during the preceding year, and to the gathering of certain basic data about these projects. Despite these intense efforts, Tough reported that interviewers felt they has not obtained all the possible learning projects in some interviews.

None of the earlier studies uncovered as much self-planned learning as was found in the Tough study. Basically, the earlier studies uncovered only the learning efforts that a respondent could recall fairly quickly and easily. It was undoubtedly easier to recall a course or conference or discussion group than it was to recall more individually developed learning efforts. For this reason, many self-planned projects probably remain undetected in previous studies. The interview schedule designed by Tough called for a probing indepth and lengthy interview with the learner. In the interviews, long lists of subject matter and learning methods were used in order to stimulate recall.

As a result of their probing in-depth interviews, Tough (1970) and his associates found that the pattern of a respondent's daily activity fell into blocks of time ranging from 15 minutes to an hour or more. These periods of time were called episodes and represented spans of attention when the individual's interest was aroused. If the precipitating stimulus set was strong enough, then a series of these episodes might be linked together over a period long enough to gain and retain certain definite learnings.

Tough's study found that only a minute fraction (0.7 percent) of all the learning projects were undertaken for credit. With one exception (Johnson 1973), data from the other studies consistently indicate that learning for credit and certification forms only a small portion of all adult learning. Academic credit includes those learning from a business school, or a college degree. Certification includes learning projects undertaken to pass a test or examination toward some license or driving test, or toward some requirement or examination related to a job. However, it is apparent that credit and certification are not as powerful motivators or as desirable outcomes as traditional adult education has always considered them to be.

However, the findings can be considered as indicative of areas of emphasis within the more general model of knowledge production, distribution and utilization. The extent of learning involvement has generally been considered under two dimensions: the number of learning projects undertaken and the estimated number of hours spent. Tough found that his subjects organized their learning efforts around learning projects, defined as a series of related episodes, adding up to at least seven hours. In each episode the learner's explicit intention was to gain knowledge and skill and retain it for at least two days.

Tough reported a high involvement rate of almost 98 percent and other studies support this finding. Although the degree of participation varies, almost every adult appears to undertake at least some learning activities every year. The number of learning projects undertaken by the "typical adult" in a twelve-month period apparently ranges from 3 to 13 depending upon the category of general population or the sample of adults who had earned a high school diploma or equivalency certificate one year prior to the interview.

There have been variations in the types of subject matter learned, representing departures from the patterns established in the Johnstone and Rivera (1965) study. When all the self-taught subjects reported by the interviewees in the Tough (1971) study were classified, the category most frequently self-taught concerned the area of home and family. Fifty-nine percent of the learning efforts in this area were self-taught rather than learned by some other method. Forty-three percent of the courses and projects in hobbies and recreation were self-taught, as were 50 percent in general education, 30 percent in personal development, 25 percent in vocational subjects, 23 percent in public affairs, and 13 percent in religion. A more detailed analysis of the 49 types of subject matter investigated found that at least 80 percent of all courses in technical arts and hobbies, gardening, and home improvement skills were self-taught.

Data Collection, Reduction and Display

This survey of independent self-planned learning is a study of the learning psychology of those who "do their own thing." The patterns of the way people do their own learning are identified and analyzed, not the patterns which are so commonly presented as a result of the way teachers teach or librarians instruct in resource utilization. In addition there is no inherent assumption or prejudgment that any one ordinal display of resource utilization is necessarily determined. Previous research suggests dynamic learner controlled strategies within which are sets of tactical variables and a differential approach to the retrieval of resources.

The present study does not set out to deal with any particular group (population segment) in isolation. The sample has been drawn nationwide. Because of this the findings can be generalized to the entire population. It is also possible to analyze out patterns of information processing in relation to various sets of the selected independent variables. However, the learning projects investigated are personal expressions of learning development which grow out of individual negotiations with a transactional environment.

The basic concept employed to assess the major learning efforts of the individual subjects is the learning project defined as a series of related episodes in which the person's motivation is to gain and retain certain fairly clearly articulated knowledge and skill. The learning emerges from an interaction of environmental opportunities, sociocultural characteristics, and of coping and planning strategies. The interaction of these variables upon and within the human organism result in a behavioral plan that describes a particular learning project.

An initial and provisional model of a citizens independent self-planned learning project has been based on the findings of previous survey research into the nature and design of learning projects. These models provide a theoretical basis for the behavioral items on the survey instrument which have been designed to serve as guides to interviewee

response. Thus, the data has been collected in the categories which grow out of the underlying conceptual work and the development of an analog within which the observations can be analyzed and interpreted.

As developed in the above sections of this report, the items for the survey instrument were assembled as a result of previous research out of findings guided by an advisory committee and the consultants. A prefinal version of the instrument was pretested for respondent understanding and interviewer processing by the Opinion Research Corporation (Princeton, NJ). The principal investigator analyzed these returns, discussed problems with two of the interviewers on the scene and reviewed results with the supervisor. Some of the pretest respondents were involved with course-like activities as well as being continuing learners. In addition, the interview period was running up to 90 minutes in length.

The questionnaire was shortened for completion in a one-hour interview and revised somewhat to accommodate more efficiently those who might not be involved with continuing learning of any kind. The introduction to the study was rewritten for the interviewers -- developed in a fashion which apparently was more "logically" related to the situation dynamics of the interview itself. As a result some items were rephrased and the sequence was changed to facilitate respondent articulation. A copy of the final survey instrument appears in Appendix C.

Interviewing was conducted under the quality controlled conditions of social survey research by the Opinion Research Corporation. Trained interviewers were oriented to the purpose, scope and methods of the study and were guided by the protocol materials as well as precise instructions of the interviewer supervisory personnel. The selection, training and supervision of the survey interviewers is detailed in Appendix D.

The respondents were selected from the American population by means of a modified probability sample. This probability sample was designed by Marketmath, Inc. for the Opinion Research Corporation from a master sample of 360 counties in the United States. The final sample of 1,501 individuals was selected on a random basis from 5,493 households in 240 primary sampling units or interviewing places. The structure of the sample, the interviewer starting points and the completion rate are detailed in Appendix E.

The interviews for the study were completed among a national probability sample of adults age 18 and over during the period of October 28 to December 1, 1976. As the completed study schedules were received in Princeton, the interviewer assignments were reviewed for completion in the check-in procedure. The assignment audits and the verification of interviews (on a 10% basis) were completed by December 9, 1976. These procedures are detailed in the report appearing in Appendix D.

Data handling comprising the coding, organization, reduction and display was done at the Center for Urban Research, University of Pittsburgh, under the immediate supervision of its director -- an internationally

respected sociologist. The scope of the work included such components as: the coding and formating of closed and open-end questions; card preparation, cleaning data and marginal delivery; the data runs, crosstabs and correlation runs; professional reviews, evaluation and summary lay-out.

The patterns and categories of the data reduced, based on standard methods comparable to the practice of other social researchers, were designed to maintain the integrity of the survey and display its results for multivariate statistical techniques. This rigorous control of the data reduction has made the results of the study available in tape and disc storage readily available for further comparative analysis.

The survey instrument allowed for the collection of both closed and open-end data. The closed-end data was organized into 157 variables, and that of the open-end into 118 variables. The assignments and the location of each of the decisions were recorded in the master code book. The displays of the frequencies of all 275 variables were organized by computer program and printed out in a set of marginals.

Guided by the assumptions and purposes for the study obtained from previous research, a two-phase probe and analysis of the frequencies was initiated. In the first phase, the frequencies were organized in display tables around the components and patterns of self-planned learning projects which the instrument had been designed to record. As a result, these data obtained from a national probability sample could be compared with the findings of the more limited area samples employed in previous surveys.

However, in order to realize the power of a national probability sample, a second phase analysis was initiated. The literature had revealed considerable speculation that the influences and motivations, which are presumed to govern traditional learning under institutional auspices, have a similar effect on the self-initiated learning of individuals. Thus, a second phase analysis was conducted employing multivariate procedures on the data obtained in the survey among those variables commonly associated with motivational factors.

Thus, in summary, this study was developed and conducted within the general KPDU model of (Knowledge Production, Distribution and Utilization. All people are presumed to be involved in the processes of information utilization at some level and to some degree. From this viewpoint, learning can be considered as a special case of the more general model of information utilization as indeed education is of distribution. The present study was undertaken because it was not previously widely known how and to what extent the processes of information utilization and acquisition are related to learning except possibly in short-term problem solving applications.

Based on the initial and provisional models available from previous findings, a national survey was conducted among adult Americans 18 years of age and older during November 1976. This survey was the major responsibility of the principal investigator working with an advisory committee and a group of consultants through the GSLIS Communications Media Research Center, University of Pittsburgh.

The respondents were selected from the U. S. population by means of a modified probability sample designed by Marketmath Inc. for the Opinion Research Corporation (Princeton, N. J.). The pilot testing and the survey data collection were conducted by the ORC Interviewing Department under the quality controlled and standard methods of social survey research.

Data handling comprising the coding, organization, and reduction was done at the University's Center for Urban Research; while the statistical analyses based upon descriptive frequencies were conducted by a team of social psychologists. However, the conclusions drawn from the various findings and the extrapolations made for inservice professional development are the responsibility of the principal investigator.

Response frequencies for the demographic and sociocultural variables are displayed in a set of 29 tables (Tables AA-BC) and presented on pages A61-69 of the Appendix. The descriptive frequencies about information about learning project development and information utilization are displayed in Tables 1-32 in Chapter 3. The several analytical tables are distributed throughout the narrative of chapter 4, Analysis of Findings.

THREE

FINDINGS OF THE SURVEY

Many studies of Americans, 18 years and older, have been made: but few if any have ever been conducted into patterns of self-initiated learning. A great deal is known about formal schooling whether for the labor force, business and industry, the professions and the disciplines. In fact, educational attainment is one of the major predictor factors in the socioeconomic and cultural studies. On the other hand, the characteristics, differences and functional roles of those who undertake self-initiated learning projects have scarcely been considered among adult Americans.

This lack of attention cannot be considered a surprising phenomenon. After all, it was as recent as 1928 that Thorndike discovered that adult Americans have the capacity to learn, and indeed learn extensively. Before that time, amny people were convinced that adults had lost whatever ability they may have ever had to learn. In addition, it was not until 1962 that Johnstone and Rivera found, almost incidentally, that many adults were engaged in planning their own learning projects.

Continuing Learning:

All the respondents to the survey, "Individual Self-Planned Learning in America," were asked about their individual learning patterns whether self-initiated or school-like, or both. One-fifth of the respondents (21.1%, N 317) could not think of any learning activity during the year previous to November 1976. On the other hand, four-fifths of the respondents (78.9%, N 1184) could identify one or more formal or self-initiated learning projects during a similar time period.

The American population can be initially differentiated and characterized in four groups: (1) continuing learners whether involved in self-planned learning or in course-like activities (N 1184, 78.9%); (2) self-initiating learners who are involved in planning their own projects (N 1142, 76.1%); (3) individuals involved in courses or school-like activities (N 283, 18.9%); (4) those not engaged in learning of any kind (N 317, 21.1%). In dichotomous terms, the first three groups may be characterized as continuing learners (or just learners); while the last group can be defined, for the purposes of this study, as non-learners. These data can be summarized in the following manner:

SAMPLES	CASES	PERCENT POPULATION SAMPLE	
Self-Learners (Sample A)	901	60.0	
Combination Learners (Sample B)	241	16.0	Formal Learners Sample W N 283
Course Learners (Sample C)	42	2.9	
Non-Learners (Sample D)	317	21.1	
	1501	100.0	
Self-Initiating Learners (S/I) (Sample E)	1142	76.1	
Continuing Learners (Sample F)	1184	79.6	

The study, "Individual Self-Planned Learning in America," has identified some striking differences and potentially significant characteristics of American adults. Almost 80% (78.9%) of the population over 18 years of age perceive themselves to be learners whether in formal educational programs and/or self-initiated learning projects. In this group there are a small number (2.9% total population sample) who are engaged only in courses or school-like activities under more formal auspices.

Over three-quarters (76.1%) of the entire population have planned one or more learning projects on their own. Within this group is a fairly sizable number (16.0% total population sample) who are both self-initiating learners and also involved in courses or school-like activities. For the total group of self-initiating learners (76.1%), the number of self-planned learning projects ranges from 1 to 18 per person. The distribution and range of the topics undertaken by self-planned learners is displayed in Table 1.

In the aggregate, 4571 self-initiated learning projects were conducted by 1142 individuals during the twelve-month period preceeding November 1976. In previous research, the criterion of 7 hours minimum has been

Table 1

Number, Type and Length of Self-Initiated Learning Projects

Category	Number of Projects																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Hobbies, Crafts	15.9	11.9	8.2	7.6	4.3	5.7	6.3	4.2	5.0	1.3		2.3			10.0	5.9		
Homemaking	13.5	12.9	13.7	11.8	10.3	5.4	7.9	3.5	3.0	2.7	4.8	4.5		13.8	5.0		18.2	11.1
Sports, Games	12.7	10.5	8.2	10.4	4.3	7.7	4.7	2.8	10.0	1.3	6.5	2.3	5.9				9.1	11.1
Home Repairs	7.9	9.0	8.6	6.6	8.5	7.7	7.9	4.2	5.0	2.7	1.6	2.3	2.9	6.9				
Gardening	5.1	8.7	7.5	7.6	5.7	9.2	9.9	8.5	6.0	5.3	4.8	9.1	11.8		5.0			
Mechanics	5.0	4.0	3.4	2.0	3.4	2.7	1.6	2.1	2.0	5.3	1.6	2.3						
Politics	4.1	5.2	6.1	5.4	6.0	3.8	3.7	7.0	4.0	6.7	1.6	4.5	5.9			5.9		11.1
English	2.9	3.3	2.9	4.0	3.7	4.6	3.1	6.3	7.0	2.7	4.8	6.8	5.9	3.4		5.9		
Child Care	2.9	3.0	7.9	4.0	7.1	6.9	3.7	1.4	2.0	2.7	1.6							
Business	2.4	4.3	6.4	4.2	8.0	10.3	10.5	10.6	9.0	9.3	9.7	11.4	5.9	6.9	20.0	5.9	9.1	11.1
Clerical	2.3	.9	.4	1.6	1.7	.8	.5	2.1	1.0	1.3	1.6	4.5		3.4				
Art	2.2	1.0	3.1	2.4	.9	.4	1.6	.7	1.0	2.7	3.2		2.9	6.9	15.0	11.8		
Music	2.2	2.5	1.9	4.0	2.0	1.1	4.2	2.1	2.0	2.7	9.7		8.8	13.8	5.0			
Nature	2.1	2.7	2.5	2.2	2.3	2.3	2.1	2.8	2.0	2.7		2.3		6.9		5.9		
Religion	2.1	1.9	1.8	1.8	1.4	.8	1.0	1.4	1.0	2.7	3.2	4.5						
Medical	1.9	1.8	.6	1.2	2.0	.8	2.6	2.1	1.0	1.3	1.6							
Job Related	1.7	1.2	1.6	1.2	1.7	1.5	1.0	2.8		2.7	3.2	2.3	2.9	3.4				
Driving	1.7	1.8	2.0	2.0	1.1	1.1			1.0	1.3						5.9		
Formal Learning	1.6	.7	.7	.8	.6	.4		.7	1.0						5.0			
Civic Volunteer Work	1.3	1.3	.9	.8	1.1	1.9	1.0	2.1	2.0	1.3		2.3	2.9					
Health, Beauty	1.2	1.9	4.2	5.4	5.1	4.6	3.7	7.7	6.0	12.0	6.5	4.5	5.9	3.4		11.8	27.3	11.1
Psychology	1.0	1.3	1.5	1.2	1.7	2.3	3.7	2.8	8.0	6.7	1.6	11.4	5.9	3.4		5.9	9.1	11.1
Sensory Awareness	.8	1.2	1.3	.8	1.7	1.5	3.1	.7	3.0	1.3	3.2		2.9	3.4	20.0		9.1	
Relationships	.7	1.1	1.3	1.6	1.4	1.9	5.8	3.5	6.0	1.3	8.4	9.1	5.9	13.8	10.0	5.9		
History	.7	.7	.6	1.4	1.4	2.3	.5	2.8		2.7	3.2	2.3		3.4		5.9		
Mathematics	.7	.1	.1	.6	2.0	1.1	1.0		1.0		3.2							
Travel	.6	1.2	1.0	2.4	3.1	3.1	5.2	4.2	4.0	6.7	1.6	2.3	5.9		5.0	5.9		11.1
Sociology	.6	.3	.7	.2	1.1	2.3		1.4	2.0	2.7	1.6						9.1	11.1
Science	.5	.5	1.0	.8	.9	1.5	1.0			1.3				3.4				
Languages	.4	.9	.4	1.0	1.1	.4	.5			2.7	4.8		5.9			11.8	9.1	
Job Search	.3	1.2	.7	1.0	1.4	.8	1.6	2.8	2.0		3.2	2.3	2.9					
Techniques	.1	.3	.3	.6	.9	1.5		3.5	2.0	1.3	1.6	4.5				5.9		11.1
Education	.1	.2	.3	.2	.3			.7										
Philosophy		.2		.2														
Other	.7	.7	1.3	1.0	1.7	1.5	.1	2.1	1.0	2.7	1.6	2.3	8.8	3.4				

taken as part of the definition of a learning project. Employing this cut-off point of a minimum of 7 hours duration, the total number of projects falls to 3812, or 3.3 projects per person identified as a self-initiating learner.

This average of 3-4 learning projects per year per individual is consistent with the findings of previous survey research. Of all learning projects, 83.6% were of 7 hours duration or more (3812); while only 16.4% (759) were of 6 hours or less, but not less than one hour. The range of interests explored in all of these projects is evident from the following categories which were abstracted from the actual topics mentioned:

Art: Painting, design, sculpture, architecture
Business: Finance, insurance, sales, real estate
Child Care: Raising children, child development
Clerical: Typing, shorthand, programming, systems
Crafts or Hobbies: Photography, embroidery, collecting
Driving: Car, truck, farm machinery
English: Reading, writing, speaking, literature
Gardening: House plants, landscaping, farming
Health: Physical fitness, Health & Beauty, Vitamins & Nutrition
History
Homemaking: Sewing, cooking, decorating
Home Repairs: Woodworking, furniture, home improvement, carpentry, plumbing.
Job Search: Career planning, future planning.
Job Related: Decision making responsibility
Language: Sign
Math
Mechanics: Television, auto, radio, welding, electronics
Medical: Medical problems, first aid
Music: Vocal, instrumental
Nature: Environment, ecology, animals
Philosophy
Politics: Current events, public affairs
Psychology: Groups, emotional & mental problems
Relationships: Dating relationships, family, marriage
Religion: Bible study, Church
Sensory Awareness: Yoga, T.M., Transactional analysis
Science: Astronomy, Chemistry
Sociology: Social problems
Sports and Games: Dancing, navigation, bowling
Techniques: New ways of doing things
Travel and Geography
Volunteer & Civic: Volunteer, church, community work
Education: Adult

These interests and concerns of people which lead them to undertake a learning project appear to emerge from the transactions and negotiations of everyday life. The areas of interest apparently range all across the

spectrum of human concern, but the project contents fall into prominent categories as is evident from Table 2. Predominant among these topics are those which resemble the transactional negotiations of everyday life. Knowledge-oriented topics appear to occur with less frequency.

Out of all topics mentioned, respondents were asked to select one for further description and analysis. The distribution of these projects across topic areas is shown in Table 2. These projects ranged in length from 1 hour to 995 or more, with a mean average of 155.8 hours duration (Table 3). The periods of time spent on that particular learning project were grouped into multiples of semester credit hours even though the learning project was self-initiated. This was done for comparative purposes and to emphasize the fact that self-learning projects are on the average longer (M 155.8 hrs.) than course-like activities where practically all of the planning is done for the student.

There may be as many reasons for learning as there are individual learners. The reasons for formal learning among both children and adults have been explored over a number of years. But those which have motivated adults to undertake self-initiated projects have only been identified in more recent survey research.

The reasons displayed in Table 4 are those which are perceived as preserving the integrity of the project. Obviously, those ranked least important, which may be problems in formal education, are apparently peripheral to the nature of self-initiated learning. The following individual comments may help to express some personal values for such learning:

> Most packaged commercial seminars available are rip offs both in money and contents. But if I ever did attend one this would be my next most important.
>
> Hard to say -- the things I learned couldn't be learned in a classroom -- only by getting out and talking with people.
>
> I don't know of anyone who will teach women what I want to know.
>
> I wanted to remain a free man and had no other choice than pursue this myself.
>
> Need to learn. My wife was stricken two years ago. I resigned my job to give full time to caring for her.

It is interesting to note that the last three reasons, ranked as least important in Table 4, are ones among others which are usually advanced in explaining why people do not participate in institutional adult education. Conversely, those ranked most important may be taken as indications of the maturity with which self-initiating learners do plan their projects.

Table 2

One Learning Project Selected From All Mentioned Upon Which to Explore Planning and Other Processing.

Category	Percent (N 1142)
Hobbies, Crafts	14.6
Homemaking	11.5
Home Repairs	8.6
Sports, Games	8.6
Gardening	6.4
Mechanics	5.7
Business	4.3
Child Care	4.2
Politics	3.0
Music	2.7
Religion	2.7
English	2.4
Nature	2.1
Medical	2.1
Health, Beauty	1.9
Art	1.9
Job Related	1.7
Psychology	1.6
Travel	1.5
Civic Volunteer Work	1.3
Clerical	1.3
Formal Learning	1.3
History	1.3
Sensory Awareness	1.2
Job Search	1.1
Driving	1.0
Relationships	.8
Language	.7
Mathematics	.7
Sociology	.7
Science	.5
Techniques	.3
Education	.2
Philosophy	.1

Table 3

One Learning Project Selected to Explore Planning and Processes - Length (Hours)

Hours*	Percent (N 1142)	Cumulative Percent
1 - 6	12.2	12.2
7 - 20	17.6	29.8
21 - 35	9.9	39.7
36 - 50	13.6	53.3
51 - 100	15.3	68.6
101 - 150	5.4	74.0
151 - 200	5.6	79.6
201 - 300	4.7	84.3
301 - 400	4.2	88.5
401 - 500	3.2	91.7
501 - 995	8.3	100.0
	100.0	

*Hours grouped in multiples of semester credit hours even though learning project was self-initiated.

Table 4

Reasons Why People Prefer to Learn on Their Own, Instead of Taking a Course -- Ranked by Importance.

Category	Most Important	Next Most	Next Least	Least Important
Desire to set my own learning pace.	46.8	43.3	4.9	4.9
Desire to use my own style of learning.	37.4	41.2	10.8	10.6
I wanted to keep the learning strategy flexible and easy to change.	31.0	45.7	13.7	9.6
Desire to put my own structure on the learning project.	27.8	53.1	11.3	7.8
I wanted to learn this right away and couldn't wait until a class might start.	36.2	14.3	26.8	22.7
I didn't know of any class that taught what I wanted to know.	29.8	18.6	29.5	22.1
I don't like a formal classroom situation with a teacher.	14.0	15.0	32.9	38.1
Lack of time to engage in a group learning program.	17.9	16.9	34.1	34.1
Transportation to a class is too hard or expensive.	5.3	7.4	42.9	44.5
I don't have enough money for a course or a class.	5.2	9.8	36.8	48.2

FINDINGS OF THE SURVEY

The length of a self-planned project is only one element which is taken into consideration in characterizing learning. The factor of motivation is presumed to be a manifestation of enthusiasm. Almost all of the respondents (94.2%) were either "fairly" or "very" enthusiastic about that one project which had been singled out for extended consideration (Table 5).

The knowledge, information or understanding gained may be taken as another factor in a learning project (Table 6). In addition to the amount of learning accomplished by the respondent, the project which was conducted could also benefit others such as the immediate family, friends and relatives, the staff or administration of the employing company (Table 7).

Once the dimensions of the situation take shape (i.e., recurring patterns appear), the individual can apparently recognize a problem to be solved or a transaction to be negotiated. Thus a grasp of the constraints and opportunities in a context moves from random awareness to more controlled analysis and diagnosis that may lead into the planning of a learning project. The type of planner and the emphases in the responsents' distribution in shown in Table 7.

The individual prefers those planning modes which include the self or closely associated and personally accessable sources such as the human and non-human planners. Clearly self-learners tend to deemphasize the group planner. The overlap among planner-types or duplication factor of employing more than one type is only 1.6 per person.

From other studies of adult self-initiated learning, it appears that some individuals at least initially become involved with a great deal of random activity. Several respondents to this study "found themselves" (discovered patterns) in terms of reacting to perceived chance occurrances in serendipitous activity. The following individual expressions taken from the "other" category of Table 7 may serve to illustrate this phenomenon:

> Trial and error; it just happened; there wasn't any planning; I decided to go and I went.
>
> Forced into the situation, trial and error; my wife left me with daughter last month.
>
> Mostly going to library and reading trade journals; I just keep reading until some ideas come.
>
> Talk to people connected with car repair and salvage stores; experimenting and sharing information.
>
> I see something I like and I go from there through trial & error; if something is too expensive I like then I try to learn how to make it.
>
> Day-to-day contact with people hit and miss; I just think and keep thinking.

Table 5

Enthusiasm Expressed About New Learning

Code	Category	Percent (N 1142)
(-2)	Very Enthusiastic	65.0
(-1)	Fairly Enthusiastic	29.2
(-0)	Not Very Enthusiastic	5.8
		100.0

Table 6

Amount of Knowledge, Information and Understanding Gained

Code	Category	Percent (N 1142)
(-2)	Great Deal	57.0
(-1)	Modest Amount	33.0
(-0)	Little	10.0
		100.0

Table 7

Extent Which Learning Benefitted Others

Code	Category	Percent (N 1142)
(-3)	Large Extent	44.9
(-2)	Modest Extent	33.2
(-1)	Small Extent	15.0
(-0)	Not at All	6.9
		100.0

Table 8

Ways Respondents Determined Day-to-Day Plans on How to Go About Planning

Category	Emphasis Percent
Self-Planner	40.6
Non-Human Planner	36.5
Human Planner	47.7
Group Planner	22.9
Other	14.3

> My husband decided I should make a western pants outfit, and talked me into getting started.
>
> I might go to the library if I just couldn't lay my hands on information any other way but libraries make me feel somewhat uncomfortable and nervous. I would also prefer to see it done or pictures as I don't like hard detailed reading either.

As a result of the findings of previous research, it is assumed that people process information in steps and in patterns which parallel behavior. In general, this progression moves from the steps of articulation and description (phase 1), through diagnosis and analysis (phase 2), and into application, testing and acceptance of "innovative" (changed) behavior (phase 3). These steps were articulated in six linguistic expressions for submission to respondents.

The phenomenon of the behavioral aspects of intrapersonal information processing is presented in Table 9. Each step (two in each phase) as expressed in a linguistic statement was ranked by respondents. There is, of course, a distribution of response across all of the six steps with emerging clusters in the expected rank order. Steps 1, 2 and 5, 6 appear to be more clearly perceived in rank order than do steps 3 and 4. Obviously, there is room for the further exploration of the congruence between a linguistic analog and the behavioral one.

Clearly, respondents do use some pattern in approaching a self-initiated learning project, even if they begin by "reading and praying." There appears to be a progression in this intrapersonal development even though a linguistic expressions of it is difficult to articulate. In any event, the following expression of reaction from the "other" category of Table 9 may help to elucidate the concomitant linguistic behavior:

> Read and pray. I share the word, and trust the Lord for my decisions.
>
> Sometimes things are hit and miss. If things don't work right for the first time, you try it again a different way.
>
> I basically find something I like to do -- and do it -- I don't approach it -- I just do it.
>
> I get the idea, think about it, get all my "junk" needed together and get to it. An idea may come to me more than once before I try it as I always think about things first. Then how and what I'll need and how long it will take -- if it will conflict with children's school hours.
>
> None of these. I went to the store, got the kit. If I needed help I asked my mother (other crafts) -- just get kit and try it on my own.

Table 9

Steps and Phases in Which Information is Sought, Processed and Explained to Oneself

Category	Step and Phase Rank					
	1	2	3	4	5	6
I talk about the interest I have and the attention which made me think about it.	33.1	15.0	17.8	17.8	12.3	3.8
I try to clarify it by thinking about the problems in it, and what I want to get out of it.	20.4	30.6	24.3	14.6	6.7	1.3
I try to organize what I want to get out of the study project.	18.6	24.4	22.3	15.6	14.9	3.8
Look for some information that will help me, and then try to organize what I have found out.	28.3	26.3	20.1	17.0	5.6	1.1
When it seems like I have a good approach, I try it out by talking to several people, or put it into action if it is something I can do.	14.3	15.8	16.8	19.0	29.7	3.6
After it sounds all right, or it works, I just seem to lose interest or go on to something else.	2.3	2.0	4.3	3.5	9.0	76.7

Table 10

Main Places Where Respondents Prefer To Do Their Own Learning

Category	Most Important	Next Most	Next Least	Least Important
Home	66.4	21.6	5.0	7.0
On-The-Job Training	37.9	33.3	16.6	12.1
Outdoors	16.6	31.1	28.8	23.5
Discussion Group	14.3	32.8	30.3	22.6
Classroom	12.5	22.0	33.1	32.5
Library	5.8	28.2	31.0	35.0
Public Events (Lectures, Concerts)	4.0	12.0	35.9	48.1

> I get books, depending on the situation. I mostly study then organize and do it. I talk with other people about what ever it is I am working on. I like to gab; so group-talk helps too.

Respondents do have preferences for the location in which they pursue their learning projects, Table 10. It is probably not surprising that the home is the best preference. It is however worth observing that on-the-job training also has a high degree of preference. One respondent put the matter this way in ranking that category most important:

> I would say on-the-job training with a guaranteed competent instructor! I hate a learning class interested in how many bodies are warming their chairs.

Only a small number (43 cases) of respondents (3.7%) mentioned other categories. These included the church (6 cases), the club or lodge (3 cases and the YMCA and Hospital, each with 1 response. Some of this additional response could be fitted into the previous categories of Table 9. But the remainder of this open response resembled that of planning methods and sources (e.g., magazines, radio, asking questions) rather than location.

The modality by which respondents prefer to learn was obtained and displayed in Table 11. The modalities are the ways people receive the information employed in the thinking process. It is interesting to observe that "making notes and writing" is almost as seldom used as game playing.

Only 16 individuals were aware enough of other ways to mention items which resemble the response when asked earlier (Table 7) how they went about planning a project. There the response ("write-in") was much larger (14.3%) and more varied. Apparently respondents had some difficulty in distinguishing between planning methods and the modalities by means of which information is obtained.

Among those who consider themselves to be continuing learners, whether in formal or self-initiated projects, a variety of sources are used to find out that learning opportunities exist. These sources employed to seek learning experiences of any kind are displayed in Table 12.

A small number of those responding mentioned some additional sources. These ranged widely from the supermarket bulletin board or barber-beautician to an organization house organ or a hot-line phone. In other words, the list gives the appearance of a sample of topical headings in a community resource directory.

The respondents were asked to rank a number of goals for any kind of learning, each on a scale from entirely unimportant to a value of extreme importance, Table 13. Some goals are perceived as having more personal relevance than others. Those which predominate revolve around the intrapersonal environment of the person -- satisfaction with one's own interior

Table 11

Main Methods by Which Respondents Prefer to Learn

Category	Best	Second Best	Second Worst	Worst
Seeing or Observing	45.2	42.4	5.8	6.6
Reading	43.8	25.8	13.5	16.9
Having A Chance To Talk To Someone Asking Questions	33.3	44.0	16.2	6.5
Hearing Or Listening	31.1	40.6	14.2	14.0
Practice, Trial and Error	29.2	23.5	29.3	18.0
Making Notes and Writing	2.1	8.0	49.7	40.2
Solving Puzzles or Playing Some Games	.1	2.8	35.8	61.2

Table 12

Sources Used To Find Out That Learning Opportunities Of Any Kind Exist

Source	Percent
Newspaper	74.0
Word Of Mouth	73.6
Television	65.6
Radio	44.5
Library Files	24.1
Library Display	21.9
Agency Files	8.3
Labor Union	7.7
Hot Line	4.1

"house." Grouped next in order of significance are those which enhance one's interpersonal relations either socially or economically.

A smaller group of respondents (32.3%) expressed additional goals of their own. These statements were distributed across several categories which have been ranked on the distribution of the first goal since only a very few respondents (5.7%) identified a second and third goal. This list extends and refines those goal categories of the previous distribution (Table 13):

Category	Number of Goals		
	1	2	3
Self Knowledge and Satisfaction	16.7	6.8	
Broaden Self	9.0	10.2	
Make Money	8.0	13.6	
Happy Family Life	7.7	10.2	14.3
Help Others	6.7	3.4	
Get Good Job	6.4	8.5	
Happiness, Fun	6.4	8.5	
Develop Skill or Knowledge	5.1	6.8	
Be Better Christian	4.1	1.7	14.3
Learn Leisure Skill	3.9	1.7	28.6
Keep Active	3.9	3.4	
Get Most From Life	3.6		
Be Better Person	3.1	5.1	
Raise Children Well	2.8	5.1	
More Formal Education	2.6	1.7	14.3
Better Health and Physical Condition	2.3	5.1	
Be Successful	2.1	1.7	
Travel-Move	1.3	1.7	
Respect and Approval	.5		14.3
Power and Influence	.0	1.7	

In addition to goals, the application in areas of reallife of learning were explored in a number of categories, Table 14. The rank seems to be comparable to that of the goals -- personal satisfaction before the interpersonal and other areas of the social environment. There appears to be but a modest interest in the equality of life such as public affairs or the environment.

The response to the "other category" was so small as scarcely to constitute a useful sample. Only 20 individuals contributed an additional application and almost all of these could as well have been ranked in the previous categories of Table 14. Apparently the distinction between goals and applications is one that is often difficult for people to make.

Recently (last 3-5 years), there has been quite a vocal interest in making academic credit available for the completion of self-initiated

Table 13

Goals For Learning -- Each Ranked On A Scale 1-10 with Zero Standing for something that is entirely unimportant and 10 stands for something that is extremely important.

Category	(10-8) Extremely Important	(7-3) Important	(2-0) Entirely Unimportant
Increase Knowledge	85.3	15.3	1.2
Meet Responsibility	77.8	11.6	5.3
Complete A Test	75.3	19.7	5.2
Peace Of Mind	70.3	22.7	6.9
Curiosity, Interest	67.4	29.7	15.6
Solve Problems	66.6	25.3	8.1
Improve Job Skills	50.5	17.7	15.6
Meet People	46.0	39.7	14.3
Teach Someone	46.0	39.7	14.3
Educational Credit for A Diploma Certificate, or Degree	28.6	30.7	40.6
Impress People	15.4	38.3	46.3

Table 14

Areas of Life in Which Respondent Uses Learning -- Each Ranked on a Scale 1-10, with Zero Standing for something that is Entirely Unimportant and 10 standing for something Extremely Important

Category	(10-8) Extremely Important	(7-3) Important	(2-0) Entirely Unimportant
Personal Development	82.7	14.6	2.7
Home and Family	80.1	15.6	4.3
Hobbies and Recreation	56.8	35.8	7.6
General Education	56.9	33.8	9.1
Vocational (Job-Related)	49.9	26.9	23.2
Religion	47.3	31.0	21.8
Voluntary Activity	35.3	47.2	17.5
Public Affairs	25.6	48.9	25.5
Agriculture, Technology	22.0	39.4	38.5

learning projects. Sources of credentialling are presented in Table 15. In addition, a small number of respondents were articulate in expressing "other" ways in which academic credit might be awarded.

It is interesting to note that no respondent felt that self-evaluation is sufficient; apparently an "outside" evaluator is essential in the perceptions of respondents for awarding credit. In any event, the following examples may be of interest to educational brokers and others concerned with the credentialling of adult learning experiences:

> It would depend on what I learned and its benefits to other people. There should be some type of evaluation institute set up; or if the course is academic maybe there should be tests set up at colleges, etc.

> If you can do a job, and do it right, I think that there should be some kind of test that you can take, and if you pass it, you should be given a certificate.

> Depends on the topic. It's doubtful if my topic would be acceptable for academic credit. If I had chosen "writing a book" perhaps it would be justifiable. But I am really not working for credits -- just to be helpful to others as well as myself.

> I should be tested by an authority to determine how much I know and how well I do.

> Any competent source -- a recognized expert -- anyone from private course teacher to accredited school but only in relation to students competence and ability.

> I think you should have an evaluation and credit for what you are able to do on your own, like CLEP tests at colleges.

> Any teacher or a professional; someone who could test you, evaluate you and determine whether or not you should receive credit.

Out of the total population sample, there were 283 adults (18.9%) who were engaged in one or more courses or school-like activities during the previous year. Such learning experiences are characterized by their affiliation with an agency or institution, the group nature of the participation, and the strong role of group leader or teacher. Evidence of these characteristics appear in the location (Table 16) where such learning experiences take place and in the lower mean hours of length (approximately 40 hours) as compared to the mean of 155.8 hours of self-initiated learning projects.

Obviously, the lengthy phases of planning done by one person (the teacher) in formal learning have already taken place by the time participants enroll and movement through the learning materials is expedited by

Table 15

Source From Whom Academic Credit Should Be Awarded for Self-Initiated Learning

Category	Percent
Any School, or Non-Specified School	28.1
College	23.6
Specialist or Other Qualified Person	19.6
Government Agency (local, state, national)	8.3
On-Job Training	5.8
Voc-Tech School	2.8
High School	2.1
Seminar, Workshop, Club	2.1
2 Year College	1.8
Adult Continued Education	1.2
Other (e.g., "significant" others)	4.6
	100.0

Table 16

Institutional Affiliation or Location Where Courses or School-Like Activities Occurred

Category	Number of Courses 1	2	3	4	5	6
College	27.1	37.7	45.7	45.5	43.3	64.7
Seminar, Workshop, Club	23.7	20.2	10.0	15.9	20.0	5.9
Vo-Tech School	17.6	9.6	11.4	15.9	6.7	5.9
2 Year College	8.0	9.6	12.9	9.1	16.7	5.9
On-Job Training	6.5	5.3	7.1	4.5	3.3	5.9
High School	6.5	4.4	2.9	4.5	3.3	5.9
Adult Continuing Education	4.2	2.6	1.4			
Specialist	1.9	.9	2.9			
Correspondence Course	1.5	1.8				
Non-Specified School	.8	1.8				
Government	.4	1.8	1.4			
Any School		1.8				
Other	1.9	2.6	4.3	4.5	6.7	5.9

concentrated activities. The number of such courses ranges up to 6 projects (Table 17) for any one person as compared to an upper range of 18 projects among those conducting self-initiated learning projects. Thus, the range of subjects covered is about one-third less than those planned by the learner.

The topics themselves look like curriculum subjects in comparing them with the more informal coping categories of self-initiated learning (Table 2) as the following examples indicate:

Category	Example
Agriculture	Agricultural economics, agronomy, forestry, and soils
Architecture	--
Art	Art appreciation, design, photography, drawing, sculpting and calligraphy
Biological sciences	Botany, ecology, predentistry, premidicine, zoology and pollution
Black studies	Mexican-American studies or other ethnic studies
Business	Accounting, business administration, industrial management, marketing, and finance
Computer and Information Sciences	Programming and systems analysis
Education	Business education, elementary education, and feminist education
Engineering	Chemical engineering, civil engineering, electrical engineering and mechanical engineering
English	Creative writing, speech and drama, linguistics, literature
Foreign languages	French, German, Italian, Latin, and Spanish
Health-related careers	Nursing, medical technology, and x-ray technology
Home economics	Diatetics, child birth classes, family and child development, nutrition, and textiles and clothing
Interdisciplinary studies	--
Journalism	Communications, radio and television

Table 17

Number of Courses or School-Like Activities Undertaken in Previous Year

Category	Number of Courses 1	2	3	4	5	6
Business	17.3	10.7	8.1	14.3	16.1	21.1
Vocational - Technical	13.8	5.8	5.4	6.1	6.5	5.3
Science, Social	12.0	23.1	28.4	8.2	16.1	21.1
Home Economics	8.1	11.6	6.8	8.2	12.9	5.3
Health Related	7.1	5.8	6.8	6.1	6.5	5.3
Sports & Recreation	7.8	1.7	2.7	8.2	3.2	
Religion & Philosophy	5.3	2.5	4.1	6.1		10.5
Art	4.9	3.3	2.7	6.1	3.2	
Education	4.2	6.6	5.4	2.0		
Biological Science	4.2	3.3	5.4	2.0		10.5
English	3.9	9.1	9.5	14.3	12.9	10.5
Mathematics	2.1	2.5	5.4	2.0	3.2	5.3
Journalism	1.8	.8	1.4	6.1	3.2	
Science, Physical	1.4	2.5	5.4	2.0	3.2	5.3
Music	1.1	2.5		4.1	6.5	
Computer Science	.7	2.5	1.4	2.-	3.2	
Language	.7				3.2	5.3
Engineering	.7					
Agriculture	.4	.8				
Black Studies					3.2	
Other	2.5	5.0	1.4			

Mathematics	Calculus and statistics
Music	Music appreciation and composition
Philosophy or religion	Ethics, logic, and theology
Physical science	Astronomy, biochemistry, chemistry, geology
Social sciences	Anthropology, economics, government, history, political science, prelaw, psychology, social work, sociology, and urban affairs
Vocational or technical	Automobile repair, carpentry, computer programming, drafting, plumbing, stenography, and television repair
Recreation	Physical education
Other	--

Information Utilization

This study has been developed and conducted within the general KPDU (Knowledge Production, Distribution and Utilization) model. All people are presumed to be involved in the processes of utilization at some level and to some degree. However, it is not as widely known how and to what extent the processes of information utilization and acquisition are related except possibly in short-term problem solving applications. Since it has only recently become evident that self-initiated learning is common, the effect it has upon information retrieval and application and vice versa is open to investigation.

From this viewpoint, learning can be considered as a special case of the more general model of information utilization as indeed education is of distribution. Respondents were asked to indicate and rank the main sources from which informative data is retrieved as presented in Table 18 (continuing learners) and Table 19 (non-learners).

Data was obtained about the recency and duration of the information seeking and utilization processes among the 1501 respondents in the total population sample. Among respondents who perceive themselves to be continuing learners, 73.2% had deliberately looked up some information within the previous 7 days. The amount of time spent in the retrieval process varied, with 86.5% of the response limited to one hour or less. In thinking about the information obtained in the last retrieval, 84.5% of the respondents confined their deliberations to one hour or less.

This probe was conducted within a sequence of questions about the retrieval and utilization of information. These data are reported out in Table 20 (Recency), Table 21 (Retrieval), and Table 22 (Thinking). Non-learners did not look up information as often and spent less time both in

Table 18

Main Sources Respondents Seek When They Want To Know Something, or Get Information On A Subject -- Continuing Learners.

Zero stands for something that is completely unimportant, and 10 stands for an extremely important source.

Category	Extremely Important	Important	Entirely Unimportant
Expert Who Was Also A Friend Or Relative	75.2	19.5	5.3
Books	71.2	23.7	5.1
Close Friend or Relative	58.7	32.8	8.3
Travel	52.5	32.5	15.0
Newspaper	48.1	40.7	11.1
Paid Expert	48.8	33.4	17.8
Television	44.2	42.9	12.8
Self-Formed Group of Equals	41.8	45.1	13.2
Individual Instruction or Tutoring	49.2	30.5	20.3
Group, Class Ore Lecture Series With An Instructor	43.1	40.7	16.2
Magazines	39.0	49.4	11.7
Exhibits, Musems, Field Trips	32.3	41.0	26.7
Browsing in Libraries	32.3	41.0	26.7
Radio	27.3	50.0	22.7
Films	27.6	45.8	26.5
Human Relations Training, Role-Playing	26.8	43.0	30.1
Brochures, Newsletters, Mailings	20.0	51.8	28.2
Phonorecords and Tape Recordings	16.8	48.8	34.4
Correspondence Study	19.3	40.7	40.1

Table 19

Main Sources Respondents Seek When They Want To Know Something, Or Get Information On A Subject -- Non-Learners

Category	Extremely Important	Important	Entirely Unimportant
Expert Who Was Also A Friend Or Relative	65.5	21.4	13.0
Close Friend Or Relative	58.0	28.7	11.3
Telvision	56.5	36.4	7.0
Newspaper	49.6	38.5	12.0
Books	48.0	37.4	14.7
Paid Expert	45.0	27.7	27.4
Radio	35.5	47.6	17.1
Travel	38.4	33.3	28.2
Magazines	23.5	51.3	25.2
Group, Class or Lecture Series With An Instructor	28.1	35.7	36.3
Self-Formed Group Of Equals	24.1	43.2	32.7
Individual Instruction or Tutoring	33.6	22.4	44.1
Exhibits, Museums, Field Trips	26.2	31.8	42.1
Films	17.2	40.8	42.1
Browsing in Libraries	21.5	29.3	49.3
Correspondence Study	16.8	29.8	53.4
Brochures, Newsletters, Mailings	13.1	38.1	48.8
Human Relations Training, Role-Playing	13.4	32.6	54.0
Phonorecords and Tape Recordings	11.7	37.0	51.4

Table 20

Recency of Last Time When Respondent Looked up Some Information

Category	Population Sample (N 1501)	Continuing Learner Response (N 1184)	Non-Learner Response (N 317)	Self-Learner (N 1142)
One Day	39.8	43.5	23.6	39.9
Two Days	48.4	52.4	31.0	48.4
Three Days	52.6	56.9	34.5	52.6
Four Days	54.6	59.5	35.4	55.2
Five Days	55.7	60.2	35.4	55.9
Six Days	56.4	61.1	35.4	56.9
Seven Days	68.8	73.2	30.7	70.0
Two Weeks	76.4	80.4	59.2	77.7
Three Weeks	78.1	82.1	60.7	79.1
Four Weeks	78.8	82.6	62.0	79.7
Two Months	88.4	91.1	76.9	89.4
Three Months	90.8	93.5	79.5	92.3
More than Three Months	100.0	100.0	100.0	100.0

Table 21

Amount of Time Spent During Last Time Respondent Looked Up Some Information -- Retrieval

Category	Population Sample (N 1501	Continuing Learner Response (N 1184)	Non-Learner Response (N 317)	Self-Learner (N 1142)
Five Minutes	19.3	17.0	30.7	17.0
Ten Minutes	34.0	31.3	47.2	31.8
Fifteen Minutes	45.0	42.0	59.9	42.8
Twenty Minutes	51.3	48.8	64.6	49.2
Thirty Minutes	71.0	68.7	82.1	69.5
Forty-Five Minutes	74.3	72.3	84.0	73.0
One Hour	87.5	86.5	92.9	87.2
One and One-half Hours	89.5	88.7	94.3	89.2
Two Hours	95.4	95.0	98.1	95.4
Three Hours	97.3	97.3	98.1	97.4
Four Hours	98.0	97.9	99.1	98.0
More than Four Hours	100.0	100.0	100.0	100.0

Table 22

Amount of Time Spent Thinking About Information Obtained on Last Occasion -- Thinking

Category	Population Sample (N 1501)	Continuing Learner Response (N 1184)	Non-Learner Response (N 317)	Self-Learner (N 1142)
Five Minutes	29.3	26.8	42.3	26.2
Ten Minutes	41.3	38.9	52.2	38.4
Fifteen Minutes	51.0	48.4	64.7	47.9
Twenty Minutes	55.4	52.9	67.9	52.4
Forty-Five Minutes	73.9	71.8	84.1	71.4
One Hour	86.0	84.5	93.5	83.6
One and Half Hours	87.2	85.8	93.5	85.0
Two Hours	92.2	91.3	96.5	90.7
Three Hours	94.8	94.2	98.0	93.6
Four Hours	95.8	95.3	98.5	94.8
More than 4 Hours	100.0	100.0	100.0	100.0

Table 23

DEPENDENT / INDEPENDENT	Recency of Look-up (Days)	Time Retrieval (Minutes)	Time Thinking (Minutes)
8 Grades and Under	126.6	41.0	48.9
Some High School	86.2	56.5	71.3
High School Grad.	42.3	38.6	60.5
Vocational	39.1	126.5	135.9
Business	33.1	33.4	54.7
Technical	60.2	76.2	50.0
Some College	11.0	44.9	62.3
College Degree	34.8	38.8	38.7
Graduate Work	13.4	53.5	44.8
Population (9 above)	48.7	46.9	59.4

retrieval and in thinking about the information obtained than the continuing learners. The relations of recency, retrieval and thinking to education and occupation are presented in Table 23 and Table 24 respectively. Those same relations to sex, age and income appear in Table 25.

A distinction can be made between the use of information for limited or sporadic periods of time and the application of it in continuing learning projects. The categories of use of information as ranked by continuing learners is presented in Table 26, and for non-learners in Table 27. In addition, a small group of respondents wrote in "other" comments. These few responses are extensions of the ranked categories and appear to indicate that information utilization is applications, and goal-oriented:

> My own information or curiosity; broaden my knowledge into something practical and useful.
>
> Enjoyment of learning something new, the surprise element and self-satisfaction of learning.
>
> Transform culture (impact on value of others), helping them live richer lives and achieve enlightenment.

The library as one community resource center was selected to obtain data on the frequency of use. While 17.1% of the continuing learners say they use the library on a regular basis, this use by the total sample drops to 14.0% and to 6.2% for non-learners. As for occasional use, an additional 29.5% of continuing learners were included; whereas 26.3% of the total population described themselves as occasional users, and only 15.0% of the non-learners gave comparable responses. Conversely, only 10.5% of the continuing learners have never used the library as compared to a 25.3% "never used" by the population as a whole, whereas a full 51.3% of non-learners were in this category.

Obviously, these figures are "self-perceptual" and would need to be refined in further studies. The data can be of interest because very few national studies of library use based on a probability sample are conducted in any five- or ten-year period. However, despite the "hawthorne" effect of a direct question, only 40.3% of the American population used the library during the year previous to November 1976 on a regular or occasional basis. What seems to be an even more disturbing fact is that almost 60% (59.7%) have never used the library or so infrequently as to respond with a "don't know" or "no answer" (Table 28).

Use of library service was explored in a simple checklist displayed in Table 29. These categories are procedurally, or perhaps behaviorally-oriented without refinement as to subject interest or user applications. The order in which the categories are ranked would seem to indicate an orientation towards library use as a non-human resource. The small (2.3%) "other" response apparently was provided from a similar orientation, such as the following examples:

Table 24

DEPENDENT / INDEPENDENT	Recency of Look-up (Days)	Time Retrieval (Minutes)	Time Thinking (Minutes)
Student	3.3	56.1	55.6
Private Household Worker	9.7	89.1	147.5
Sales Worker	14.8	29.3	44.4
Clerical	19.3	39.3	44.4
Professional, Technical	21.8	55.8	53.3
Service Worker	28.2	79.0	116.1
Manager, Administrator	34.1	36.5	34.8
Housewife	38.2	39.0	58.6
Craftsman, Foreman	62.6	53.4	55.7
Unemployed	63.9	73.9	50.7
Other Blue Collar	80.2	44.5	46.6
Laborer	95.9	35.8	49.0
Retired	99.5	47.1	71.0
Transport Operator	114.6	25.5	31.8
Farm Worker	117.3	42.5	154.1
Other Operator	141.7	28.1	39.5

Table 25

DEPENDENT / INDEPENDENT	Recency of Look-up (Days)	Time Retrieval (Minutes)	Time Thinking (Minutes)
Female	33.2	42.8	55.8
Male	71.5	53.5	64.6
Population (Both)	48.7	46.8	59.3
18-24 years	36.3	57.0	78.1
25-32	36.5	41.9	54.9
33-44	26.3	46.1	53.3
45-54	33.6	48.4	45.9
55-64	57.7	55.0	70.1
65 and over	111.0	37.5	56.6
Income less than $3,000	62.1	59.3	46.6
3,000-4,999	90.2	38.1	46.5
5,000-7,499	69.2	76.3	116.1
7,500-9,999	67.1	48.1	54.6
10,000-14,999	34.8	39.8	54.4
15,000-24,999	37.9	46.1	62.1
25,000 and over	28.9	50.6	44.9

Table 26

Uses of Information as Ranked by Respondents who are Learners (N 1184)

Category	Most Important	Next Most	Next Least	Least Important
Make Progress Toward a Goal	60.7	33.6	4.0	1.8
Understanding and Diagnose a Situation	44.3	45.4	4.3	5.9
Choose Between Options or Alternative Ways Of Doing Something	35.4	34.7	16.6	13.4
Clarify a Situation	22.8	51.4	15.3	10.5
Achieve Self-Control	19.6	37.1	26.7	16.6
Plan a Learning Project	18.2	27.0	35.5	19.2
Remove A Barrier	15.8	15.5	41.3	27.4
Just To have Something To Do	9.8	7.5	44.6	38.1
Win Approval By Others	1.3	4.3	32.0	62.4

Table 27

Uses of Information As Ranked By Respondents Who Are Non-Learners (N 317)

Category	Most Important	Next Most	Next Least	Least Important
Understand and Diagnose a Situation	52.5	39.6	5.8	2.2
Make Progress Toward a Goal	43.9	42.3	7.3	6.5
Clarify A Situation	35.0	51.5	10.7	2.9
Choose Between Options or Alternative Ways Of Doing Something	31.9	34.7	22.2	11.1
Achieve Self-Control	21.9	25.0	29.2	24.0
Just To Have Something To Do	21.2	12.8	30.7	35.2
Remove A Barrier	17.0	6.8	38.6	37.5
Plan A Learning Project	10.5	15.8	38.2	35.5
Win Approval By Others	1.6	7.5	39.8	51.1

Table 28. FREQUENCY OF LIBRARY USE

Regular	14.0	
Occasional	26.3	
		40.3
Never	25.3	
DK/NA	34.4	
		59.7

Table 29. WAYS IN WHICH RESPONDENTS GO ABOUT USING A LIBRARY

Category	Learner Response (N 1142)	Self Learner (N 901)	Population Sample (N 1501)	Non-Learner Response (N 317)
Look in Card File	48.9	44.6	45.5	22.4
Look For Books On Shelves Myself	41.2	41.9	40.3	38.1
Ask A Librarian	39.8	38.9	40.9	45.6
Browse In Reference Books (Encyclopedia, Handbook, Manual)	19.0	17.3	18.0	10.9
Browse In New Books Area	16.7	16.3	16.7	17.0
Browse In Magazine Area	8.8	7.6	7.9	3.4

Table 30. NUMBER OF ORGANIZATIONAL MEMBERSHIPS HELD BY RESPONDENTS

Category	Sample Population (N 1501)	Self Learners (N 901)	Learner Response (N 1142)	Non-Learner Response (N 317)
0	38.8	38.0	35.6	52.5
1	66.6	65.6	63.0	80.9
2	80.5	80.2	77.6	90.8
3	89.0	89.0	87.3	95.0
4	93.2	93.7	92.4	96.4
5	96.6	96.6	96.0	98.7
6	98.4	98.9	98.1	99.7
7	98.9	99.3	98.6	100.0
8(or more)	100.0	100.0	100.0	

Depends on reason for going to library; i.e., pleasure, reference or for information -- sometimes I ask a librarian.

I do reading there because it's quiet, more concentration can be achieved.

Send wife or secretary, my wife picks up a book if I want it.

The organizational life of the respondents was explored. Organized groups may be sources of information and learning; but they are also areas of life where information and learning can be applied. The cumulative distribution of organizational memberships is presented in Table 30. It appears that the distribution of memberships held for continuing learners is higher than for the population as a whole and with pronounced differences from non-learners. Over half the non-learners hold no organizational memberships.

A slightly larger percentage of learners (22.7%) were officers of organizations as contrasted with 20.5% for the population sample. The number of hours per week spent volunteering appears to be comparable among learners and the population sample, Table 21. Approximately 80% of both samples contribute one day or less a week to voluntary activity. The areas or kinds of volunteering done appear to have a similar rank order in both the population sample and among continuing learners, Table 32.

Table 31 NUMBER OF 8-HOUR DAYS PER WEEK SPENT IN VOLUNTEERING BY RESPONDENTS

Category	Population Sample (N 1501)	Self Learner (N 901)	Learner Respondent (N 1142)	Non-Learner Respondent (N 317)
Half Day	64.7	63.6	65.7	53.8
One Day	79.6	77.8	80.2	76.9
Two Days	88.9	88.2	89.7	84.6
Three Days	91.4	90.7	91.7	92.3
Four Days	94.0	93.2	93.9	94.9
One Work Week	96.9	96.2	96.8	97.4
Over Five Days	100.0	100.0	100.0	100.0

Table 32 KINDS OF VOLUNTEER WORK TO WHICH RESPONDENTS CONTRIBUTE THEIR TIME

Category	Population Sample (N 1501)	Self Learner (N 901)	Learner Respondents (N 1142)	Non-Learner Response (N 317)
Religious	17.4	17.5	16.3	33.3
Health Related	14.9	14.9	15.5	2.6
Education	12.7	9.9	13.2	7.7
Citizenship	8.8	8.9	8.9	5.1
Social Welfare	9.3	8.6	8.5	15.4
Recreation	7.6	9.4	8.2	2.6
Fund Raising	7.0	7.6	7.0	7.7
Civic, Community	5.8	5.7	5.6	5.1
Help Friends and Relatives	3.9	4.2	3.7	5.1
Political	3.0	3.1	2.9	0.0
Justice	.9	.8	1.0	5.5
Unidentified Other	8.8	9.4	9.1	

FOUR

RESULTS OF THE ANALYSES

Self-planned learning has already been found to be a prevalent characteristic of Americans of 18 years of age and older. The aggregate of these responses can be viewed as an estimate of an empirical probability to learn. Almost four-fifth of the respondents (78.9%) could identify one or more formal or self-initiated learning projects during the 12 month period previous to November 1976.

Of all the respondents to the survey (N1501), 76.1% were involved with one or more self-planned learning projects. As a result, it is legitimate to argue that the national likelihood of involvement in self-initiated learning has a high probability (over .7). Similarly, it is appropriate to conclude that formal learning has a probability of about .2 since 18.9% of the respondents had participated in courses or school-like activities.

Not only is learning prevalent in America but the scope of involvement is considerable. The total number of self-initiated learning projects undertaken by individuals ranged from 1 to 18 but with an average of 3.3 projects per person (Table 1). On the other hand, the length of time devoted to each project ranged from 1 to 900 hours or more, with an average of 155.8 hours per project. Actual hours were combined into multiples of semester credit hours for comparative purposes (Table 3).

On page 27 of the previous chapter the various groups of respondents were shown as subsamples of the population sample. The essential components of this information is presented in a somewhat different array in order to facilitate the analyses which follow:

Note: Marginal tables, as numbered from 1 to 32 appear in the previous chapter, "Findings of the Survey"; and those numbered from AA through BC appear in the "Appendix" to this report (pages A61-69).

		FORMAL: yes	FORMAL: no
INFORMAL	yes	Group 1	Group 2
	no	Group 3	Group 4

Thus, the four groups of respondents (population subsamples) identified on the basis of descriptive frequencies include the following:

Yes-Yes: Learners who conduct their own learning projects and participate in courses or school-like activities (N 241, 16%) who are called combination learners or Group 1 respondents.

Yes-No: Learners who initiate and conduct their own learning projects (N901, 60%) are defined for the purposes of the study as self-initating learners or Group 2 respondents.

No-Yes: Learners who participate only in courses or school-like activities (N42, 2.9%) who are described as formal learners or Group 3 respondents.

No-No: Remainder of the respondents are considered to be non-learners (N 317, 21.1%) because they did not participate in learning activities of any kind during the 12 months previous to November 1976 or Group 4 respondents.

The demographics are fairly representative in distribution across the various cells which can be observed in Tables AA-BC (pages A61-69 of this report). Apparently the sampling procedure employed worked well in practice despite the economic limitations on call-backs. As subsequent analyses show, many of these demographics can be collapsed into a smaller set of discrete variables such as sex, age, education, income, occupation and political interest.

Thus, learning may be considered to be a "fact of life" and the prevalence of self-initiating learning surely occurs for various reasons and because of certain conditions. Although many patterns may lie behind learning, or be fundamental to it, they are not immediately obvious from the data frequencies. The reasons and conditions have to be investigated in an analytical manner guided by the initial and somewhat provisional hypotheses. To assist in this process, numerous statistical analyses were undertaken.

In overview, a number of sets of statistical routines were planned and conducted to respond to the substantiative and demographic questions raised by the findings of the survey. These analyses are presented in considerable detail in the hope that other researchers can followup with additional studies of self-planned learning. In general, this process occured in three phases: (1) statistical analysis of response within questions; (2) statistical analysis between response patterns among such groups of respondents; (3) "global" consideration of variable sets presumed to be interrelated.

As the various sets of statistical routines were planned and conducted, correlation coefficients (or point biserial correlations in the case of dichotomized variables) were calculated in order to investigate the interrelationships among the variables. Several crosstab contingency analyses yielded differences in response patterns that were greater than could be accounted for by chance alone. Unless specifically noted, all differences claimed were significant at the .05 level.

All of the steps in each of the several sets of involved and exhaustive analytical routines are not reported in detail. As the data from the actual questionnaires were reduced and organized into a set of descriptive tables, so also is the statistical detail summarized in the following sections for ease of perusal. Some of the differences which did occur were organized into a set of descriptive tables, so also is the statistical detail summarized in the following sections for ease of perusal. Some of the differences which did occur were organized into analytical tables in order to highlight the relationships among the variables.

Topics of Interest in Learning

In the survey, respondents were asked to list the various self-planned learning projects which they had undertaken in the year previous to November 1976. These topics ranged in number from one to eighteen with an average of 3.3 projects per person. After this initial response, the self-learners were asked to select one topic to keep in mind while answering additional questions about self-planned learning. Each of these topics were recorded by the interviewer as well as the number of hours devoted to it.

On an ad hoc basis the topics of self-planned study were regrouped into a tri-part scale resembling the learner orientations developed by Houle (1963). These were: (1) formal topics similar to Houle's knowledge orientation; (2) practical topics similar to problem solving; (3) intra-self topics resembling the processes of personal development. The following may be considered as examples of the assignments:

Formal Topics (6.9%)

Formal Learning	English
History	Language
Mathematics	Science

Practical Topics (75.9%)

Business	Child Care
Clerical	Hobbies/ Crafts
Driving	Gardening
Health/Beauty	Homemaking
Home Repairs	Job Search
Job Related	Mechanics
Medical	Sports/Games
Techniques	Travel
Volunteer/Civic	Education

Intraself Topics (17.2%)

Sensory Awareness	Sociology
Religion	Relationships
Psychology	Politics
Philosophy	Nature
Music	Art

Employing these three major topic sets, a number of statistical routines were employed to study the relation of these topics with a number of variables assumed to be associated with information utilization and learning behavior. Crosstabulations were made between these three topics and several other variables. Some of the significant ones are shown in the following discussion along with the chi-square calculation for each contingency table.

The topic-oriented groups were fairly equally distributed in response to recency of an information retrieval as well as in time spent in both looking up information and in thinking about it. While some variations did exist, they were not significant. Thus, the distribution of response on the marginals (Tables 20, 21, 22) could be taken as representative of these topic-oriented groups.

Reading as a preferred mode of learning has been selected as an example of the analytical processes being employed and as a patterned relationship with the three topic sets within which respondents learned. From Table 11, it was previously noted that respondents were asked to rank reading along with six other modes as methods by means of which respondents prefer to learn. In Table 33, "Reading as a Modality of Learning," it can be observed that reading is ranked highest by those who undertook to learn formal learning topics as defined by this analysis. This mode of learning was preferred in second rank by those who selected the intraself type of topic, and was ranked lowest by those with more practical interests.

The library as a place to learn may serve as a second example of a pattern in relationship to the tri-part topical analysis. Despite its presumed visibility as a community resource center few people actually do use it. In the accompanying contingency table (Table 34), the essential

Table 33

Reading as a Modality of Learning Ranked by Respondents Who Learned Certain Topic Sets -- Contingency Table Significant at .05 Level

	Worst and Second Worst	Did Not Rank	Best and Second Best	
Formal	7 .09	22 .28	49 .63	78
Practical	162 .20	356 .42	321 .38	839
Intraself	29 .15	77 .40	85 .45	191
	198	455	455	1108

$x^2 = 23.9$, d.f. = 4

Table 34

Library as a Place to Learn Ranked by Respondents Who Learned Certain Topic Sets -- Contingency Table Significant at .05 Level

	Worst and Second Worst	Did Not Rank	Best and Second Best	
Formal	16 .21	40 .51	22 .28	78
Practical	237 .28	492 .59	110 .13	839
Intraself	51 .27	115 .60	25 .13	191
	304	647	157	1108

$x^2 = 14.1$, d.f. = 4

pattern of the relationship to the three topic sets can be noted. Those respondents with formal learning topics selected the library as "best" or "second best" to a significantly greater degree than those with practical or intraself topics. Of course, the total number of respondents ranking it high is small in comparison to those who ignored the library or ranked it "worst" or "second worst."

A number of other interesting patterns were observed in addition to the examples given above. All of the following conditions are significant at the .05 level:

Among places to learn (Table 10), the library and the classroom are ranked highest by the formal learner; whereas the intraself learner prefers the outdoors and discussion groups; and the practical learner ranked on-the-job as highest.

Among the ways to learn (Table 11), reading and seeing were ranked highest by the formal learners; while practice was preferred by the individual with practical interests. Other modalities were not significantly different among topic sets.

Formal topic set respondents use the library most often (Table 28), prefer to browse in reference books when using that information center (Table 29), and employ a group planner in developing their learning projects (Table 8).

Among other sources of information (Table 18), the intraself topic set prefer close friends; while magazines received a slight preference among those with a practical interest. The remaining sources of information as well as the nine uses of information (Table 27) were not preferred with any significant differences.

Among the nine ways to discover learning opportunities (Table 12) and the eleven goals for learning (Table 13) there were no significant differences among the topic sets.

Respondents with a practical topic set ranked "home and family" highest as a use to which learning is applied (Table 14); while the intraself topic set ranked vocational use lowest and voluntary activity highest.

Significant differences were not found to exist among respondents in: (1) the three topic sets and the reasons for selecting self-planned learnings (Table 4); (2) the degree of liking for intellectual figures (Table AY); or the steps with which information is considered (thinking -- Table 9). It should not be concluded that these nonsignificant patterns are to be ignored. It merely means that these variables were not correlated with type of topic. However, these facts may of themselves be of considerable interest to the study being conducted.

It also seems of interest to note that no significant differences were obtained among respondents in: (1) the amount of learning gained (Table 6); (2) enthusiasm for the learning (Table 5); or (3) benefits to others (Table 7) of the one project selected for more of an indepth review at the beginning of the interview. In addition, no differences were obtained as to whether academic credit should be received for informal learning or whether respondents engaged in courses and school-like activities.

The three types of interest groups were analyzed in relation to the hours on the learning project. The distribution of the number of hours for each of the three topic groups is shown in Table 35. The average number of hours spent by each topic group is shown at the bottom of the table. While this table shows the percentage of each group spending various number of hours on the topic, the raw data were analyzed by ANOVA and the difference among the means was significant.

The grand mean based on these statistical analyses of all respondents who planned self-initiated learning projects is 154.3 hours. This differs by 1.5 points from the 155.8 mean hours reported earlier on the basis of the marginals. But it should be remembered that the latter mean provisionally took into account a cut-off point of 7 hours minimum for a learning project. In any event, the much higher mean number of hours for a learning project among the intraself group in contrast to the much lower mean hours for the practical group is a significant finding of considerable interest.

The differences among the three topic groups as to the active status of the one learning project originally selected for consideration in the interview were significant. The intraself group learners were mostly active at the time of the interview, followed in turn by the formal and then the practical learners. As related to (1) information gained, (2) enthusiasm about the knowledge gained, and the (3) extent to which that knowledge benefitted others, there were no significant differences among the three topic-oriented groups of learners.

The three topic groups were equally distributed (approximately 30%) in replying that academic credit should be available for self-learning projects. A similar pattern was observed in regard to whether any formal learning had been conducted in the previous year. The proportion across the three groups was approximately 60% no and 40% yes.

There were no significant differences among the three topic groups in the distribution of admiration or lack of it for politically interesting people, the intellectually curious, those who appreciate fine arts, or the scholarly interested persons. The three groups were also more or less equally distributed with respect to: (1) number of organizational memberships, (2) leadership as defined by officering, and (3) whether they had volunteered in the previous year.

Table 35

Hours (Credit Hour Equivalents)
Spent on Self-Learning Topic (% shown)

Hours	Formal	Practical	Intraself
1-6	7.4	14.8	3.8
7-20	17.7	17.1	19.5
21-35	8.8	10.3	8.4
36-50	24.1	13.2	11.2
51-100	10.4	17.2	12.9
101-150	8.8	5.0	6.7
151 and over	22.8	22.4	37.5
Mean	176.7 (hours)	138.6 (hours)	216.8 (hours)

The response to length of time devoted to learning projects ranged from 1 hour to 900 hours and over.

Although there was a significant difference in the hours spent per week in volunteering, the magnitude of the difference was small. Obviously, from Table 36, practical interested people spent a great deal less time volunteering than do the intraself and formal interest learners. However, in terms of kinds of volunteer work, there was a much more equal distribution.

Similar analyses were conducted using other variables presumed to have an effect on these three topic-oriented groups. All of the demographics and the socioculturals were entered into these analyses. Of all these variables only the following were significant at the .05 level: sex, education, self-perceived social class, occupation, degree of political interest, and income.

In planning learning projects there was no significant difference among the three learning topic groups in employing the self-planner mode. This was true as well in employing both the non-human resource and in using another human planner in a one-to-one mode. The intraself group apparently relies more heavily on the group planner than do the other two topic-oriented groups.

Planning and Development

In the dynamics of individual development,the planning of a learning project is assumed to grow out of and extend the episodic behavior of a span of attention. If the external imperatives are strong enough, the individual tends to link these together into the sequential activity of several related episodes which defines a learning project.

It is presumed that those who do link episodes together in the sequential activities of a learning project(s) differ in many ways from those who do not, or who only participate in courses or other school-like activities. These many differences were explored among respondents in various questions dealing with sources of information, goals and uses for learning, patterns and time spent in "thinking" processes as well as the socioculturals of intellectualism, religiosity and organizational membership plus a number of demographic variables.

The respondents to the survey were asked to indicate the methods by means of which they went out about planning the day-to-day activities of a learning project. The raw survey response appears in Table 8 which indicates that four major planning methods were identified: (1) self as planner; (2) non-human planner; (3) another person as planner; or (4) group as planner.

In order to identify the actual differences among respondents, a cross tabluation of the joint response patterns over the four methods was conducted (Table 37). From these data the following observations are evident:

Table 36

Time Spent in Volunteer Work
by Three Topic Oriented Groups (% shown)

	Formal	Practical	Intraself
Half day	58.1	66.1	59.1
One day	9.6	17.2	6.0
Two days	9.7	8.7	10.8
Three days	.0	2.1	2.4
Four days	2.4	1.4	6.0
One work week	.0	1.9	7.2
Over 5 days	20.2	2.6	10.5

Table 37

Planner Patterns (Table 8) Employed by Self-Learners
in Linking Episodes of Learning Behavior (Cross Tabulation Analysis)

		Self-Planner: YES			Self-Planner: NO		
		Individual as planning source	group as planning source: yes	group as planning source: no	Individual as planning source	group as planning source: yes	group as planning source: no
Non-Human Planner: YES	Individual as planning source: yes	22% 35 (1)	25% 39 (2)		8% 21 (1)	37% 95 (2)	
	Individual as planning source: no	8% 13 (3)	45% 71 (4)		5% 14 (3)	50% 128 (4)	
		100% N 158			100% N 258		
Non-Human Planner: NO	Individual as planning source: yes	4% 13 (5)	18% 55 (6)		12% 49 (5)	56% 237 (6)	
	Individual as planning source: no	10% 30 (7)	68% 206 (8)		20% 85 (7)	12% 51 (8)	
		100% N 304			100% N 422		

Of those who use a self-planner (method No. 1), two-thirds of these individuals "go it alone," not employing any other method of planning.

Of these who use a non-human planner (method No. 2), fifty percent of these individuals do NOT employ methods No. 3 or No. 4.

Of those who do NOT use a non-human planner (method No. 2), the previous pattern is reversed (i.e., they use a self-planner).

Of those who do NOT use either a self-planner (method No. 1) or a non-human planner (method No. 2), then more than fifty percent of these individuals use another person planner (method No. 3).

Only 270 (23.6%) of the 1142 self-planning learners among the respondents employ the group (Method No. 4) for assistance at some point in planning a learning project(s).

These methods employed by the individual in linking episodes together are of parallel if not greater importance than the lifecycle of a self-planned learning project. However, these patterns by means of which projects are planned remain one of the as-yet unexplored areas of self-initiated learning. In fact, as further analysis shows, the last three (non-human, another person, the group) of the four planning modes are multiply correlated with the first (self-planner).

In Table 37, it can be noted that all four of the planning variables are interrelated. This interelationship holds true when the multiple correlation of the four are examined with reference to subsamples Yes-Yes (combination learners) and Yes-No (self-initating learners). In Table 38, self-planner is held dependent for the other multiple correlations which exist in Table 37.

This analysis is carried one step further by breaking the elements of the table down into subsample groups Yes-Yes and Yes-No as is shown in Table 39. A similar analysis was performed by collapsing the data on the variable: group as planner. This set of routines is not shown in a table, but the chi-square of significance was 30.6 with 7 degrees of freedom.

Thus, using all four planning variables the X^2 testing no multiple correlation with the self-planner was 58.5 with 16 degrees of freedom. When the variable using the group planner was dependent, the X^2 decreases by almost 50% to 30.6 with 7 degrees of freedom. This reduction is a measure of the importance of the group as planning variable for predicting membership in the other subsample learning groups.

Table 38

Self-Planner Dependent, Other Planning Variables Independent

	Self-Planner		
	Yes	No	
1	35	21	56
2	39	95	134
3	13	14	27
4	71	128	199
5	13	49	62
6	55	237	292
7	30	85	115
8	206	51	257
	462	680	1142

$X^2 = 265.5$, d.f. = 7

Table 39

Self as Planner Compared with
Learner Subsamples

Self-Planner: Yes

	Subsample Yes-Yes	Subsample Yes-No	
1	13	22	35
2	10	29	39
3	2	11	13
4	7	64	71
5	6	7	13
6	5	50	55
7	11	19	30
8	25	181	206
	79	383	462

Self-Planner: No

	Subsample Yes-Yes	Subsample Yes-No	
1	9	12	21
2	26	69	95
3	6	8	14
4	37	91	128
5	13	36	49
6	39	198	237
7	23	62	85
8	9	42	51
	162	518	680

$X^2 = 58.5$, d.f. = 16

A clear demarcation seems to exist in the minds of self-planned learners between group processes and individual or at most one-to-one processes. Apparently, the group is avoided perhaps because it reminds the individual of the classroom and the childhood learning of topics of little relevance to adult life.

Self-planned learning seems to be a pattern of learning behavior which is largely undertaken by the individual. Much if any reliance upon a teacher and a class or group is displaced by one's own effort (planning method No. 1) or by those planning methods (No. 2 and No. 3) over which one can exert personal and immediate influence. The need to talk out one's thoughts is met on a one-to-one basis and not by group sessions.

Processes of Learning

On the basis of survey returns, respondents were grouped into four patterns on the basis of their approach to self-planned learning, course-like activities or none at all. Over three-quarters (76.1%) of the respondents had planned one or more learning projects during the year previous to November 1976. For the purposes of the analyses these respondents were considered in two groups:

Group 1: Learners who conduct their own learning projects and participate in courses or school-like activities (N 241, 16%) who are called combination learners (Yes-Yes).

Group 2: Learners who initiate and conduct their own learning projects (N 901, 60%) are defined for the purposes of the study as self-initiating learners. (Yes-No).

The locations where respondents prefer to learn are displayed in Table 40. Respondents in two of the population subsamples (Groups 1 and 2) had some significant differences with respect to the main locations they prefer to do their own learning. The home was ranked most important by both groups with public events in second place. However there were considerable differences in ranking among the remaining locations. Discussion group and classroom were ranked worst.

The reasons which people give for undertaking learning projects on their own were initially displayed in frequency Table 4. The first four reasons given are presumed to be an integral component of the self-initiating learning process. Reasons 5 and 6 are somewhat peripheral to that process even though associated with it. The last four reasons had constituted the traditional assumptions as to why people do not enroll in the institutional adult education programs (Table 41). From this Table 41, it may be noted that almost 50% of Group 1 endorse reasons 1-4; while Group 2 has only about 25% of its respondents endorsing the same reasons.

Table 40

Locations Where Respondents Prefer to Learn

	Home	Public Events	Other	
Group 1	99 42.1	51 21.7	85 36.2	235
Group 2	480	169	232	881
Totals	579	220	317	1116

X^2 = 12.4, d.f. = 2

(Differences are significant)

Table 41

Reasons Why People Learn on their Own

	Reasons 1-4	Reasons 5-6	Reasons 7-10	
Group 1	97 43.3	64 28.5	63 18.2	224
Group 2	243 28.1	293 35.4	291 36.5	827
Totals	340	357	354	1051

$X^2 = 15.6$, d.f. = 2

(Differences are significant)

Table 42 indicates the main methods by means of which self-planned learners prefer to learn which were previously listed in the descriptive Table 11. On the basis of a nonsignificant chi-square, there were no differences in percentages choosing these methods. In Table 42, the methods by means of which respondents prefer to learn are ranked on the raw response of the two groups. These ranks are essentially similar in both groups.

The response to questions dealing with the goals of learning as well as the uses for learning were first presented in Tables 13 and 14 respectively. Among those questions dealing with goals and uses of learning, one-way analyses of variance were performed separately for each word or phrase in the three areas. Tables 43 and 44 indicate whether there were significant differences (at .05 level) among the four means of the population subsamples. In these tables, the obtained significant mean differences are displayed for the specified group contrasts.

In their perceived goals for learning, there are some significant differences among the four population subsamples. These variables included: improving job skills, increasing knowledge, teaching someone, and educational credit (Table 43). There were little or no significant differences among the four population subsamples in the rating of the several other goals for learning.

Among the uses of learning, there were some significant differences (Table 44) in the rating of personal development, vocational activity, public affairs, hobbies, agriculture and general education. For example, Group 1's mean importance rating of vocational activity is 1.85 points larger than Group 2's. On the same use of learning Group 1 is 1.42 points higher than Groups 2 and 3 combined. However, the conclusions drawn from the descriptive data about uses for learning would seem to include the principal areas of concern for which learning activities are undertaken.

The relationships were examined among the responses to the question on intellectualism (Table AY) for those respondents who were engaged in self-learning activities. In these analyses, contingency tables relating each intellectualism response set to the six steps in thinking about information as shown in Table 9 were constructed. However, in these analyses no significant relationships were found.

Response on the intellectualism question set was examined in relation to the subsample groups who had or had not been involved in learning activities. The percentage of each group answering "always admire" to the variable, "Admiring people interested in international, national, and local affairs," was lowest for subsample Group 1 and increasing over Groups 2 and 3 to a high for Group 4.

These percentages are shown in Tables 45 except that Groups 1 and 2 as well as Groups 3 and 4 have been combined. This was done because there was little difference between the components of each combination. The large magnitude of difference in admiration for politically interested people were significant at the .05 level.

Table 42

Methods by Which Respondents Prefer to Learn

	Group 1	Group 2
Reading, and Questions/Talk	117	457
Seeing/observing, Notes/Writing	78	279
Practice/Trial	33	130
Puzzles/Games	5	9
Hearing/Listening	1	0

χ^2 was non-significant

Table 43

Goals for Learning -- Each Rated by Respondents (Table 13) Analyzed on Basis of Four Patterns of Learning Behavior (One-Way Analysis of Variance, Significance at .05 level).

Categories	Groups Different?	Group 2 vs. Group 3	Group 1 vs. Groups 2 & 3	Group 1 vs. Group 2
Improve Job Skills	Yes	Yes -1.54	Yes .66	Yes 1.43
Increase Knowledge	Yes	Yes .55	No	Yes .27
Meet People	No	--	--	--
Curiosity, Interest	No	--	--	--
Peace of Mind	Yes	No	No	Yes -.42
Teach Someone	Yes	No	Yes 1.01	Yes .47
Impress People	No	--	--	--
Educational Credit	Yes	Yes -2.1	Yes 1.11	Yes 2.17
Solve Problems	No	--	--	--
Complete a Task	No	--	--	--
Meet Responsibility	No	--	--	--

Results of ANOVA's on importance rating (scaled 0-10) for each goal for learning). Tabled "yes" if significant difference (.05 level) between means (obtained differences shown, "no" if non significant.

Table 44

Uses for Learning -- Each Rated by Respondents (Table 14) and Analyzed on Basis of Four Patterns of Learning Behavior (One-Way Analysis of Variance, Significance at .05 Level)

Categories	Groups Different?	Group 2 vs. Group 3	Group 1 vs. Groups 2 & 3	Group 1 vs. Group 2
Personal Development	Yes	No	Yes .53	Yes .37
Vocational Activity	Yes	No	Yes 1.42	Yes 1.85
Public Affairs	Yes	No	Yes 1.17	Yes .99
Voluntary Activity	No	--	--	--
Hobbies/Recreation	Yes	Yes 1.3	No	No
Home & Family	No	--	--	--
Religion	No	--	--	--
Agriculture/Technology	Yes	Yes 1.17	Yes 1.25	Yes .67
General Education	Yes	No	Yes .9	Yes .99

Results of ANOVA's on importance rating (scaled 0-10) for each (uses for learning). Tables "yes" if significant difference (.05 level) between means (obtained differences shown, "no" if non significant.

Table 45

Admiration for People Interested in Political Affairs

Informal Learning	Dislike/ Depends	Always Admire	
Yes Groups 1 and 2	.51 562	.49 546	1108
No Groups 3 and 4	.37 119	.63 206	325
	681	752	1433

93

$x^2 = 20.05$

Obtained Frequency and Conditional (Row) Percent

On the variable articulating admiration for those with an "active interest in all things scholarly", a recombination occured. The percentage of Groups 1 and 3 together was different than the percentage answering "always admire" for Groups 2 and 4. On the other two variables in the question about intellectualism, there were no significant differences among the various pairs of combination.

In general, it would appear from these analyses that those respondents with greater involvement in continuing learning are less likely to admire uncritically those with already established attainments. Conversely, those with less involvement in learning activities are either less critical in their admiration or were attempting to ingratiate themselves with the interviewers.

Free or not of the stereotypes which cloud thinking, the learner links episodes of time into a sequential learning project. These episodes of thinking or spans of attention may range with an average of 30-40 minutes. Thinking is presumed to occur in a number of six steps which were listed in Table 9 in the previous chapter.

The percentage of subjects ranking each of the six steps first was compared with the responses on most of the other variables in the study. Significant differences were obtained on only the following variables: group or human planner (Table 8), enthusiasum for project learnings (Table 5), educational credit (Table 15), reading as a method of learning (Table 11).

Contingency tables were constructed and further grouped to combine steps 1 and 5 together and steps 2,3,4 and 6. Steps 1 and 5 are those reflecting "talking" as a mode of information processing. The percentage of respondents choosing 1 and 5 first were different from the percentages choosing the others. However, the differences within steps 1 and 5, or 2,3,4,6 were small.

Information Sources and Utilization

The sources from which information is retrieved are often considered of major importance in the KPDU model of which librarianship is a part. A factor analysis routine was conducted among the 19 sources exhibited in Table 18. Three factors were identified; but it was found that practically all of the variables were loading on the first factor accounting for 65.3% of the variance. Therefore it was not considered advisable to differentiate among the sources much less group these sources of information into mutually exclusive classes.

An analysis of variance was conducted employing the four subsamples of the total survey response. An eleven point scale was used by respondents. These analyses are presented in Table 46; and it appears that these sources from which information is retrieved are employed in significantly different ways by each of the four population subsamples. Such diversity among information sources has seldom been taken into the consideration it deserves within the KPDU model of knowledge production, dissemination, and utilization.

Table 46

Sources of Information -- Rank Rated by Respondents (Table 18) and Analyzed on Basis of Four Patterns of Learning Behavior (One-Way Analysis of Variance, F-values reported, Significant at .05 Level)

Categories	Groups Different?	Groups 1, 2 & 3 vs. Group 4	Group 2 vs. Group 3	Group 1 vs. Groups 2 & 3
Close Friends/Relatives	Yes	No	No	No
Expert/Friend	Yes	Yes 2.1	No	No
Paid Expert	Yes	Yes 2.8	No	No
Books	Yes	Yes 4.5	No	Yes 2.0
Group/Class	Yes	Yes 7.1	Yes -1.2	Yes 2.4
Self-Formed Group	Yes	Yes 4.6	No	Yes 1.9
Magazines	Yes	Yes 2.9	Yes 1.3	Yes 1.8
Tapes/Phonorecords	Yes	Yes 3.3	No	Yes 1.5
Radio	Yes	Yes -2.7	No	No
Films	Yes	Yes 3.4	No	Yes 2.5
Newspaper	No	--	--	--
Television	Yes	Yes -2.8	No	No
Exhibits	Yes	Yes 4.8	No	No
Tutors	Yes	Yes 6.1	No	Yes 2.1
Correspondence	Yes	Yes 2.7	No	No
Mailings/Brochures	Yes	Yes 4.4	No	No
Human Relations	Yes	Yes 5.4	No	Yes 1.5
Library Browsing	Yes	Yes 4.9	No	Yes 2.9
Travel	Yes	Yes 3.5	No	Yes 1.7

From this Table 46, it can be seen for example that non-learners (Group 4) rank radio and television almost 3 scale points more important than all learners combined (Group 1, 2 & 3). On the other hand, learners think that organized groups and class are 7 scale points more important than non-learners. In the same contrast, tutors (one-to-one human resource) were 6 points higher; exhibits almost 5 points comparing similarly with human relations training and library browsing.

Other significant differences are smaller in scale points such as books, self-formed groups, mailings/brochures, travel, phonorecordings, magazines, etc. It is however, surprising that no significant difference existed in the contrast being noted between learners and non-learners over the newspaper as a source of information.

The discovery of learning opportunities were rated by the respondents in the two groups of self-planned learners: Group 1 (Yes-Yes). Group 2, (Yes-No). In a second phase comprehensive analysis, each of these ten opportunity sources were compared with all of the demographic variables in the study. The significant results (at the .05 level) of the chi-squares summarized in the following statements:

Newspaper is associated with race, education and income.

Word-of-Mouth and Radio are associated with race.

Television is associated with sex, marital status, occupation and role in the household.

Library Files are assocated with age, occupation, household role, having children and where lived as a child.

Commercial Display is associated with sex, educational level, age, household role.

Library Display is associated with education, age and occupation.

Agency Files are associated with education, age, occupation and househod role.

Labor Union is associated with sex, occupation, and self-perceived class.

Hot Line is associated with education and number of times which one has moved.

Of the many demographic variables, only a few are related significantly to the sources for discovering learning opportunities. The conclusion, therefore, is that the demographics as a whole are not of great value in predicting sources of learning opportunities.

One of the presumed major locales for the use of information is the organizational life of the community. The frequency distributions for respondents who during the previous year were officers of organizations and who had volunteered during the same time period were displayed in Table AR and AS (page A66). Cross tabulations were made of each of these response patterns among the four groups of the population subsamples with results significant at the .05 level.

From Table 47, it can be seen that both items (officering and volunteering) had a decreasing percent participating from Group 1 down through Groups 2, 3 and 4. Obviously those people who can find the time for volunteering and for officering organizations can also find the time for learning activities. It may also be the case that such involvement in community affairs requires of the individual to keep up-to-date and interested in a greater range of knowledge than the uninvolved.

The respondents in two of the population subsample groups (1 and 2) were significantly different in the ratings they assigned to many of the uses of information (Table 48). They were largely in agreement that information can be employed to clarify a situation and achieve self-control. Beyond those two uses there was little agreement except that the making of progress towards a goal was third in importance. From a tabulation employing "worst" ratings, which was significant, both groups were largely in agreement on only "to win approval by others," but were different on the remainder.

The survey response to the uses of information was previously ranked by learners and nonlearners in Tables 26 ane 27 respectively. These variables were submitted to crosstab correlations with each of the other variables in the study. The independent variables which were of significance (.05 level) included the following: degree of political interest, occupation, age, martial status, educational level, number times moved, sex, organizational membership and officering, voluntary activity, use of library, formal courses, enthusiasm and information gained in the one selected learning project.

The variables as components of the uses of information were submitted to further analyses. These subsequent analyses were performed on the last place and first place "votes" of the four groups of the population subsamples. The response for the individuals in Group 1 (combination learners) was computed for least and second least place. This calculation generated a total of 463 votes which were distributed across the 9 possible responses.

Similar computations were made for Group 2 and 4. Group 3 was omitted from the analysis because it contained only 42 cases. Table 49 displays these computations. There is almost perfect agreement among the three groups over the least and second least choices. Thus the three groups tend to agree across the 9 components of use as to what is least important.

Table 47

Organizational and Volunteer Involvement
During the Previous Year

	Officer of Organization	Volunteer Activity
Group 1	41.6	53.8
Group 2	33.7	43.4
Group 3	33.3	31.0
Group 4	25.7	13.2

(Significant at .05 level)

Table 48

Uses of Information

	Clarify Situation /Self-Control	Goal Progress	Other	
Group 1	157 66.5	27 11.4	52 22.1	236
Group 2	497 56.5	83 9.4	299 34.1	879
Totals	654	110	351	1115

Table 49

Uses for Information Ranked Least and Second Least Important (Table 26)

Total Votes	Make Progress Toward Goal	Understand/Diagnose Situation	Clarify Situation	Choose Between Options	Achieve Self-Control	Plan Learning Project	Remove a Barrier	Just Have Something to do	Win Others Approval	
					Numerical Display					
463	8	9	17	13	31	36	45	153	161	Group 1
1748	31	48	59	81	128	138	221	457	585	Group 2
546	20	11	14	26	52	59	69	121	174	Group 4
					Ranked Display					
	9	8	6	7	5	4	3	2	1	Group 1
	9	8	7	6	5	4	3	2	1	Group 2
	7	9	8	6	5	4	3	2	1	Group 4

Similar calculations were made for these same three groups among their votes for most important and second most important. There was a good agreement among the groups over first and second choices for importance. Essentially the ranking of the components was the inverse of the ordinal display of least important.

Of greater interest are the characteristics of those individuals who ranked items of high importance when the groups as a whole ranked them of least importance. Conversely there were a number of respondents who ranked low what the groups as a whole ranked of most importance. For the purpose of further analysis, the following subgroups were indentified: (1) respondents who voted with the group ("normal," 75.1%); (2) respondents who voted high what group voted low (positive deviants, 14.9%); (3) the converse of the previous subgroup (negative deviants, 6.7%); (4) those who were both positively low and negatively high(double deviants 3.4%).

The data for subgroups 2 and 3 were collapsed without significant loss of information. This resulted in 3 subgroups of "normal" respondents, single deviants (whether positive or negative), and double deviants. With these three derived subgroups, it was possible to examine (in cross-tab correlation matrices) various questions which were presumed to be related to learning. In general, the scale of deviation based on the uses of information is negatively correlated with various aspects of learning which were considered. In other words, deviants from the group norm are not much interested in learning activities of almost any kind.

Comparisons between the 3 subgroups and several demographic, socio-cultural and presumed learning variables were made. Many of analyses were unproductive but those upon which the following list of observations is based were significant at the .05 level. The greater the deviation from the group norm in use of information, the greater the expectation that the following conditions will occur:

Earn a low income and have a low educational level with 50% having less than a high school education.

Plans learning projects with the aid of a non-human planner and definately avoids the group planner (Table 8).

Credit (academic) for self-planned learning is not important, nor is the working for a degree a desirable learning goal (Table 15).

Goal expectations for learning are low which include job skills, teaching others, solving problems, completing a task or meeting responsibility (Table 13).

Use expectations for learning are low which include vocational, public affairs or general education. However, hobbies received a high rank as a useful application of learning (Table 14).

Classroom is the worst place, while the outdoors is the best place within which to conduct learning (Table 10).

Sources of information were all ranked low except radio even though there was a considerable variation in response (Table 18).

Information is not retrieved very frequently (Table 20), the library is almost never used (Table 28), and neither newspapers nor library files (Table 12) are employed to find out about learning opportunities.

Organizational leadership positions (Table AR) are seldom if ever held and interest in political affairs (Table AU) is low.

The definition of a deviant from the group norm as a function of the ranking of information use has served a useful purpose in further analyses. Since people generally confuse goals with use, this profile of deviance derived from the application of the uses of information appears to have been appropriate. Certainly the deviant, so defined, holds some interesting views and characteristics. The double deviant ranks job skills low as a learning goal even though such a person has in general a low educational level.

Having less of an educational level than "normal" persons, the deviant apparently has not learned to play the social game as effectively as others. It is not surprising that such a person lacks a concern for political or social affairs; but it is worth noting that the double deviant ranks the "teaching of others" very low indeed as a goal for learning. Obviously with information use at variance with the "majority," it is also not surprising to find that the deviant is seldom picked as an officer of an organization.

Learning and Information Processing

As a systems approach to the recognition of various relationships, correlation, regression and discriminant analyses were undertaken. Sometimes, a "global" approach of this nature can uncover more underlying relationships missed in the detailed analytical routines. For this correlation analysis, the reasons and conditions for learning were assumed to provisionally include the independent variables of the study, such as background traits, importance indices of acquiring information, elements of intellectual style, and the respondents own assessment of political interest and religiosity (Table 50).

The demographic and sociocultural variables were selected from those presented in Tables AA-BC (Appendix E); while those variables comprising the learning and information use patterns are presented in the previous sections of the previous chapter (Tables 1-32). The dependent variables selected to characterize learning behavior included the following: (1) probability of involvement in a self-learning effort (2) number of the

Table 50

SUMMARY OF ZERO-ORDER CORRELATIONS BETWEEN INDEPENDENT AND DEPENDENT VARIABLES

	Self-Learning	Projects	Time Investment	Formal Learning
Background Traits				
Sex	--	-.069	.097	--
Race	--	.078	.104	-.109
Education	.246	.320	.131	.412
Social class	.141	.154	--	.131
Age	.292	-.256	-.092	-.339
Income	.212	.235	--	.196
Importance of				
Friend or relative	--	--	--	-.081
Expert who is a friend or relative	.132	.100	--	.075
Paid expert	.060	.090	.066	.118
Books	.216	.214	.052	.207
Group, class with instructor	.179	.192	--	.331
Self-formed group	.225	.188	--	.145
Magazines	.202	.181	--	.084
Records, tapes	.124	.127	.093	.135
Radio	-.068	--	--	-.079
Films	.152	.165	.053	.163

Table 50 (con't)

Newspaper	--	.055	--	--
Television	-.100	-.079	--	-.129
Exhibits, musea, field trips	.163	.199	.120	.161
Individual instruction or tutoring	.188	.153	.061	.203
Correspondence study	.088	.067	--	.086
Brochures, newsletters, mailings	.159	.128	.156	--
Human relations training	.186	.189	.078	.164
Browsing in libraries	.187	.207	.058	.200
Travel	.149	.173	.085	.119
Admiring people with				
Interest in international, national, local affairs	-.120	-.066	-.058	-.054
Intellectual curiosity	.052	.119	.089	.082
Appreciating fine arts	--	.104	--	.072
General scholarly interests	-.060	--	--	-.098
Self-Assessment of				
Personal interest in politics	.153	.158	--	.150
Religiosity	--	--	--	--

various self-learning projects which respondents listed; (3) average hours spent on self-learning activities; (4) probability of formal learning in the 12 months prior to the timing of the field work.

In table 50 the zero order correlation coefficients are provided between each of the four possible dependent variables and the demographic and attitudinal items explicitly considered in this analysis. Negative correlations with sex indicate the greater tendency of women rather than men to respond positively to the dependent variables. Positive values of race correlations point to a greater tendency of whites to respond positively. Religiosity is coded from low to high so that negative correlations indicate propensities of less religious respondents to give the positive answer on the dependent variables(s).

It should be noted that, for the most part, these zero-order correlations are quite low. The significance of a correlation coefficient is a function of sample size. That is, the larger the size of the sample, the smaller the correlation coefficient needs to be in order to be significantly different from zero. At the same time, small correlation coefficients, even though significantly different from zero, may have a small value in explaining variance in the dependent variable. Thus the following observations are provisionally accepted:

The lower the age, the more likely is self-learning, the greater the number of projects, the greater the time investment for those who become learners, and the greater the propensity toward formal learning.

The higher the income, the more the tendency toward self-learning and formal learning as well as toward involvement in many rather than fewer projects.

The higher the social class identification, the more the self-learning, the more the formal learning, and the greater the number of projects.

The higher the education, the more the self-learning as well as formal learning, the greater the number of projects and the greater the time investment. Whites tend to spend more time on projects. Blacks tend to be more involved in formal learning.

Race is rather unrelated to propensity toward self-learning or the numbers of projects.

Except for the time investment among the self-learners, the importance of books, group or class instruction, records and tapes, films, individual tutoring, browsing in libraries, travel and human relations training is relevant to the three remaining dependent variables: self-learning propensity, formal learning likelihood, and number of projects the respondent becomes involved in.

The importance of exhibits, musea or field trips correlates with all the dependent variables; while brochures, newsletters or mailings as important information sources relate to self-learning as such (as well as in terms of projects and time investment) but not to formal learning.

The importance of television has a negative relation to both self-learning and formal learning; and a negligible negative relation to the numbers of projects and time investments of the learners.

The higher the personal interest in politics, the more likely the self-learning, the greater the number of projects, the greater the time, and the more formal learning.

In a second phase analysis, several of the salient demographic or socio-cultural characteristics of the respondents were included in order to determine the extent to which the (linear) multiple regression model could shed light on each of the same dependent variables of self-learning, number of projects, hours spent, and formal learning. The attitudinal variables considered were those which are presumed to mirror the self-assessed importance of various information sources which Americans use in either episodic or sequential learning.

Involvement in self-planned learning was employed as a dependent variable in the first of four multiple regression analyses (Table 51, 52). In Table 51, the multiple correlation coefficient turns out to be $R^2 = .358$ accounting for only 12.5 percent of the variance in the dependent variable. This is not a robust result but suggests a tendency for the likelihood of self-learning to increase the younger the respondent, the higher the formal education, the higher the income, among women, and the higher the social class self-identification.

In Table 52, the multiple correlation of $R^2 = .415$ accounts for 17.0 percent of the variance. Similarly, some guidelines emerge which may prove useful in subsequent research, such as:

Printed media importance as an information source are conducive to further self-learning; while audial or visual media (radio, television) are likely to affect self-learning probabilities negatively.

Admiring people who are themselves interested in politics seems to be associated with lower inclinations to learn; whereas one's own interest in political matters does contribute to self-learning propensities positively.

Use of experts who are also friends or relatives tends to stimulate self-learning; while the use of paid experts affects self-learning probabilities somewhat negatively.

Correspondence study importance has a modest but significantly negatively effect if self-formed groups or individualized tutoring lead to self-learning.

Table 51

MULTIPLE REGRESSION COEFFICIENTS WITH SELF-LEARNING AS THE DEPENDENT VARIABLES AND DEMOGRAPHIC TRAITS AS INDEPENDENT VARIABLES

	B coefficient	Beta
Age	-.051	-.227
Education	.021	.133
Income	.021	.088
Sex	-.035	-.041
Social class	.029	.046
(Intercept)	(.724)	R^2 = .358

Education coded from least to most formal education.

Sex coded 0 for females and 1 for males

Table 52

MUTLIPLE REGRESSION COEFFICIENTS WITH A SELF-LEARNING AS THE DEPENDENT VARIABLE AND SELECTED ATTITUDINAL VARIABLES AS INDEPENDENT PREDICTORS

	B coefficient	Beta
Importance of self-formed groups	.017	.127
Importance of books	.016	.106
Admiring politically interested people	-.130	-.170
Respondent interest in politics	.054	.129
Importance of radio	-.016	-.115
Importance of magazines	.021	.147
Importance of human relations training, role-playing	.011	.091
Importance of television	-.011	-.076
Importance of an expert who is also a friend or relative	.010	.065
Importance of paid expert	-.008	-.069
Individual instruction or tutoring importance	.011	.096
Importance of correspondence study.	-.009	-.072
(Intercept)	(.551)	R^2 = .415

The extent of involvement in self-planned learning was employed as a dependent variable in a similar routine. In both analyses the multiple regression correlation coefficients are essentially the same. Either set of independent variables can explain the comparable result of less than 15 percent of the variance. However, the results of the stepwise regression suggest some exploratory tendencies, such as:

> Involvement in more projects is the more pronounced the more formally educated the respondent, the younger that person is, the higher the income, and among whites and women.
>
> Books and magazines, when emphasized as important sources of information, induce the respondents to be involved in more projects; radio and television as information sources have more a negative, or deterrent effect in this regard.
>
> Having a liking for intellectually curious people and for those who have a strong interest in the world of fine arts, music, drama literature, ballet and the like, are also factors which contribute to greater project involvement; while admiration for people with interest in politics or in scholarship in general has a negative relationship to the intensity of self-learning involvements.
>
> Respondent's own interest in politics yields a positive regression coefficient -- the more interested the respondents are the more they tend become engaged in a variety of self-learning activities.
>
> Self-formed groups, human relations training and exposure to exhibits as an important way of acquiring information are all also positive factors in the numbers of self-learning projects. Correspondence study, similar to the effect of that variable on the propensity to engage in any self-learning, leads to a negative coefficient.

The time invested in a self-planned learning project is not predicted very well, even at a modest level, by any of the independent variables employed in the study. Neverthless, since some the regression coefficients are significantly different (.05 level) from zero, these weak relationships could be noted for possible comparative purposes, such as:

> More educated white males tend to spend more time once they become learners.
>
> Lower income learners and younger people invest more effort in self-learning activities even though people with higher incomes are more likely to become self-learners to begin with.
>
> People who are more likely to spend a great deal of time on their project tend to consider the importance of exhibits, records and tapes, and of human relations training more important than do others. They also admire intellectually curious people, but not those whose major interests lie in the sphere of politics, whether national or international.

Brochures, pamphlets and mailings, as well as classes or group contexts in which an instructor provides the informaton, in turn, are the less important the more time the respondents tend to spend on their self-learning ventures.

Involvement in formal learning as expressed by participation in courses or school-like activities was employed as a dependent variable for the fourth of these regression analyses. Perhaps because it is not so prevalent as self-planning learning, the results as displayed in Tables 53 and 54 are somewhat more robust. These preliminary findings include such observations as the following.

Education, age and race affect the propensity to engage in more formalized learning as indicated in tne significant regression coefficients.

Formal learning is the more likely the more the respondent is educated to begin with -- a datum not different from the self-learning result. The younger the respondent, the greater the tendency is to engage in formal learning which is also similar to the basis results previously observed.

Formal learning is more likely among blacks than among whites, i.e. younger, well-educated blacks tend to become involved in formal learning more than do other Americans.

The greater the importance of classroom-type situations or books or film and mailings the greater the tendency toward formal learning.

The greater the interest in politics, the greater the learning propensity.

The lower the importance of radio or television and the correspondence approach to study, the greater the tendency toward formal learning.

The less the admiration for people with general "scholarly" interests and for those with political interests, the greater the propensity toward formal learning.

To alternate the "global" strategy somewhat three sets of discriminant analyses were undertaken on the three cohort subgroups which emerged as a result of some initial analyses. It appeared that respondents could be grouped in two additional functional ways besides the subsamples of learners versus nonlearners. The first of these two other cohorts was derived from the topics of the self-learning projects, and the second from the uses of information. Thus, in total, the three sets of dependent variables for the discriminant analyses were:

DISCRIM A: Population subsamples "Yes-Yes" (Cell 1), "Yes-No" (Cell 2) and "No-No" (Cell3); see above for derivation.

Table 53

MULTIPLE REGRESSION WITH FORMAL LEARNING AS THE DEPENDENT VARIABLE AND DEMOGRAPHIC CHARACTERISTIC AS THE INDEPENDENT VARIABLES

	B coefficient	Beta
Education	.062	.362
Age	- .056	- .235
Race	- .207	- .125
(Intercept)	(.647)	R^2 = .492

Table 54

MULTIPLE REGRESSION WITH FORMAL LEARNING EXPERIENCE AS THE DEPENDENT VARIABLE AND SELECTED ATTITUDES AS THE PREDICTORS

	B coefficient	Beta
Importance of group, class or lecture series with an instructor	.042	.310
Admiring people with scholarly interest	-.096	-.122
Importance of television	-.015	-.098
Personal interest in politics	.048	.107
Importance of books	.012	.075
Importance of radio	-.014	-.098
Importance of film	.011	.085
Importance of correspondence study	-.016	-.117
Importance of brochures, newsletters, mailings	.012	.086
Admiring politically interested people	-.050	-.060
(Intercept) (.202)	R^2 = .433	

DISCRIM B: Topic sets derived from self-planned learning projects -- formal (Cell 1), technical (Cell 2), intraself (Cell 3); see section above, "Topics of Interest", for derivation.

DISCRIM C: Information use as included in the following groups -- understand/diagnose situation (Cell 1), progress towards goals (Cell 2), remaining seven uses (Cell 3); see section above, "Information Sources," for derivation.

Each of the three sets of dependent variables in A, B and C were investigated in turn. The independent variables employed in each of the statistical routines were: enthusiasum for topic learned (Table 5), educational level (Table AK), self-perceived social class (Table AT), age (Table AD), degree of political interest (Table AU), amount learned in topic chosen (Table 6), library use (Table 28), organizational membership (Table 30), and where lived as child (Table AP).

In the first of these three routines, the variables selected for the discriminate analysis were able to correct classify only 62.3% of the respondents into the three cells. Since the base rate was only 60% classified in Cell 2 (self-initiating learners), the discriminant analysis was able to increase this predictive ability only 2.3% Essentially, cells 1 and 3 "look like" Cell 2 in terms of the variables employed in the discriminant routine.

The discriminant analyses performed on the other two sets of dependent variables (derived topics and information use) were no more successful. Essentially the analyses could not discriminate among the various groups, or to such a small extent that they overlapped with one another. Therefore, it was decided not to employ further multivariate analyses on these dependent variable sets.

Even though the factor of learning was appropriately weighed in each of the three sets of discriminant routines, the response rate on the items studied varied greatly. When the discriminant analyses were attempted with a large number of variables, the lack of response vectors resulted in very few cases being available for the analysis. Consequently, further work on this approach was considered not to be feasible.

In expressing these provisions, it should also be noted that non-significant differences may hold considerable import for the study as a whole. For example, the fact that the demographic variables are stronger in predicting formal learning may on the other hand point up the prevalence of self-learning in contemporary America.

FIVE

CONCLUSIONS AND RECOMMENDATIONS

The prevalence of learning in America is becoming evident; and the realization of a learning society appears to be much closer at hand. Concomitant with this emerging picture, and perhaps because of it, there is no single profile of the continuing learner. Four out of five Americans, over 18 years of age and older were involved in some kind of learning activity during the year previous to November 1976.

The probability of involvement in learning activities is about .8; and the likelihood that such activities are self-initiated is almost as high (.76). In fact, this involvement is so widespread and has so democratically saturated the American population that the traditional demographics are no longer as effective in predicting the phenomena of self-planned learning as they may still be for formal learning.

Learning has become a fact of life. Indeed, how else would one respond as effectively to the transactional imperatives of everyday life? Even in an episode, or span of attention lasting 30-40 minutes, learning occurs. When these episodes are linked together, as they frequently are under the pressures of reallife negotiations, they show the planned sequentiality so prized by the learning psychologist.

Learning in real life is closely related to the environment out of which it grows in an organic and developmental manner. Humans learn to respond effectively to other people, objects and events around them by using selective perception and differentiation, forming patterns or concepts and seeing relationships, as well as organizing information into outcome competencies or products. In other words, the individual articulates perceptions, analyzes situations for opportunities and constraints, and maximizes desirable relationships with retrieved data in order to produce some outcome which enhances self-esteem or impacts favorably on the environment.

Of parallel importance to the emergence of the learning society is the obvious individualism of self-planned learning. In the past, it has often been a voiced regret that Americans are becoming conformists, oriented towards group-think and institutional loyalties. But the evidence is emerging that individualism is alive and well in America expressed in the prevalence of self-initiated learning activities.

Indeed, the more involvement in learning activities of any kind, the more critical are respondents in admiring those with established attainments. Findings such as these take on added impact as Americans both have more leisure time and increasingly turn inward because of curtailed outward expansionist opportunities. Learning could well be the key to a new individualism that is more socially responsible than the exploitive behavior it would replace.

Unfortunately, however, there appears to be a clear demarcation in minds of individuals that groups are classes or vice versa and that the individual's planning efforts have to be limited to the one-to-one consultant and non-human helpers such as books, recordings, libraries. As the adult coping skills are a prerequisite for using the latter effectively, so are the group skills for the former. Unfortunately, for most Americans the group is a class and they are inhibited by what might be called a "puritan" outlook about group processes and from even attempting to consider participating in groups effectively.

This finding is of considerable importance to informal educators such as librarians who are in a position to try and change such attitudes and motivate participation in informal groups. This opportunity is a challenge as well since these same educators and consultants may at best suffer the similar stereotypes about the group as their clients. At worst, librarians have almost no personal experience in this type of group participation let alone any training whatsoever in eliciting appropriate responses among clients in groups.

This stereotype about the group is the more unfortunate as it inhibits the expression of a basic need in planning learning projects. The planning and developing of sequential learning episodes can be a complex and difficult set of tasks; for in a new field, how can the individual know what resources are most useful? How can s/he predict the emotional blocks, the required skills and other problems that may arise later in the project? Actually, it is a credit to the remarkable potential of the human individual that self-learners will set out in most instances without professional help but with varying degrees of deliberateness to plan a strategy for the entire effort.

The talking out of one's ideas about a situation, a personal diagnosis or even retrieved informative data appears to be a necessary step in the learning process among most people. But of equal or even greater importance is the deep-felt need to preserve the "right" to set one's own learning style and pace. Unfortunately, stereotypes about the group limit the range of exploration in the minds of many people to another person or thing (non-human planner) over which one can exert personal and immediate influence.

Self-Planned Learning

Several striking behaviors and potentially significant characteristics of American adults have been identified. Almost 80% (78.9%) of the population of 18 years and over perceive themselves to be continuing learners

whether in self-planned or formal courses. Surprisingly, very few (2.9%) were engaged only in courses or school-like activities. Apparently, coursework in continuing education is but a supplement to the more commonly accepted self-initiated learning projects.

Over three-quarters (76.1%) of the entire U.S. population had planned one or more learning projects on their own during the year previous to November 1976 when the data were collected. These learners had initiated a number of projects ranging from 1 to 18 per person in a wide scope of topics largely related to the transactional nature of everyday life. Employing the cut-off duration of 7 hours minimum, established in previous research, the number of projects was 3.3 per person who was identified as a self-initiating learner.

The length of time devoted to a single project may range from 1 hour to 900 or more; but the mean average was of 155.8 hours duration. Thus, self-initiated learning projects are on the average about 3-4 times longer than a typical 3 credit semester length course of about 45 clock hours. Of course, in the latter instance, it must be recognized that most if not practically all of the planning is done for the student. The teacher takes away the "burden" as well as the opportunity to be obtained in planning one's own learning behavior.

There may be as many reasons for life long learning as there are individual learners. Certainly, numerous reasons have in the past been given as to why adults may be inclined to avoid the program of institutional adult education; but among respondents to this study such traditional reasons as the following were ranked very low indeed:

Lack of time to engage in a group learning program.

Transportation to a class is too hard or too expensive.

Didn't have enough money for a course or class.

Didn't like a formal classroom situation with a teacher.

On the other hand, a number of other reasons for planning one's own learning behavior emerged and were ranked very high. These reasons indicate that a great many people are concerned about setting their own learning pace and exploring their own style of learning rather than submitting to formal course-oriented experiences. The following comments indicate an increasing maturity among adult learners:

I wanted to keep the learning strategy flexible and easy to change.

I want to put my own structure on the learning project rather than wait for a course.

The prevalence of reasons such as these for undertaking self-initiated learning have implications for librarians as adult educators. A rapidly

growing number of individuals prefer those planning modes which include the self as planner ("teacher") or a closely associated and personally accessible instructional "assistant" such as another human or a non-human planner. Clearly self-learners tend to deemphasize the group planner with its associated reliance upon a teacher. Adult educators may increasingly want to take into account this growing need of many people for more control over the learning enterprise.

The topics of everyday concern to self-planned learners cover a full range of human interest. As one may have suspected, three-quarters (76.9%) of these topics are what might be described as practical concerns. Less than one out of five topics (17.1%) devolve around intrapersonal affairs, such as interpersonal relationships or sensory awareness. A minor proportion (6.9%) of the topics were in some way related to formal learning or school-like activities.

The purposes for learning include both goals and uses; and respondents along with most people appear to confuse the two. The evidence of this confusion may be taken from the fact that the two goals listed most important are essentially the same as the two uses for learning ranked most important, such as:

Goals	Uses
Improve Job Skills	Personal Development
Increase Knowledge	Vocational Activity

The third ranked goal/use for learning was public affairs. These purposes for learning are not to be confused with the topics studied in a self-planned learning project. Any or all of the topics studied could be relevant and applicable to the three main purposes which respondents had in mind when learning, such as: personal development, job/vocational conditions, and public or community affairs. These priorities seem also to be expressed in the greater degeee of organizational involvement among continuing learners. Certainly those involved in learning expressed a greater degree of interest in political affairs than those who were not.

Respondents do have preferences for the location in which they pursue their learning projects, such as the home, the church, the club or lodge, the YMCA and the hospital. Course-oriented locations were the least acceptable. It is probably not surprising that the home is the best preference. One respondent put the matter this way in ranking job training as most important:

> I would say on-the-job training with a guaranteed competent instructor. I hate a learning class interested in how many bodies are warming their chairs.

Respondents had some difficulty in distinguishing between planning methods and the modalities by means of which information is obtained. The

modalities are the ways people receive the information employed in the thinking process. It is interesting to observe that "hearing and listening" is almost as seldom used as "trial and practice." On the other hand, those individuals who use the mass media of communication, particularly television, do not do nearly as much continuing learning as those who use individual human and non-human resources.

Individuals get involved with a number of transactions whose place in the proposed sequence may initially be only dimly perceived. These sets of negotiations have been called planning modes which respondents articulated as clustering around the following four major methods of planning a self-learning project:

> Self-Planner retains the major responsibility for day-to-day decision making about needs and criteria for selecting and using informative data.
>
> Non-Human Planner such as a series of television programs, programmed instructional materials, a workbook or other printed matter can provide a learning blueprint.
>
> Human Planner or significant other person helps the learner in a one-to-one situation to fill the gap between the individual's level of competence and the skills necessary to access appropriate resources.
>
> Group Planner such as a workshop or a class is accepted in whole or in part by the learner as the source of directions regarding what to learn or do in each episode.

The duplication among or combined use of these four planning modes by any one individual is not as great as one might have suspected. Given the stereotype which people have of the group as class, it is not surprising that the human planner received the greatest response, and that the overlap which does occur is with those who employ the non-human planner. Of particular significance is the fact that, of those who use the self-planner mode, over two-thirds of these respondents do not use any other method of planning. Thus, almost thirty percent (27.2%) of the self-planners do not use any other mode of planning despite the need of the majority to talk out one's developing ideas and plans.

Only 23.6% (N 270) of the 1142 self-initiating learners in this present study employed the group planner for assistance at some point in planning a learning project. Apparently from the "write-in" response, the group can serve as a source of ideas for information, resources to explore and tactics which might be employed in a subsequent learning strategy. But in practically every instance, any reliance upon the group for support was but a temporary expediency among this sample of continuing learners.

In the last 3-5 years, there has been quite a vocal interest in making academic credit available for the completion of self-initiated learning

projects. Most respondents recognized that credentialling has been controlled by the academic institutions such as schools and colleges. But enough "other" responses mentioned various nonformal agencies which thus raises the question of whether the state may in the not too distant future be asked to broaden the base of credit awarding instrumentalities such as libraries and other informal learning centers.

Formal Learning

While the likelihood of informal learning is high, the probability of being involved only in courses or school-like activities is very low indeed. Of the total sample, only 2.9% (or 42 individuals) were engaged only in courses where the planning and scheduling of what to study was done by a teacher.

However, there were a number of respondents who throughout this report have been called combination learners. These individuals together with the course-only learners brings the probability of involvement in formal learning up to almost a .2. About 1 out of every 5 Americans (18.9%) are involved with courses or school-like activities.

The combination learners, those engaged both in self-initiated and in courses, tend to differ in some ways from those who are only self-planned learners. From a traditional viewpoint, such individuals are more socially "mature" whatever that means. At least, there are not as many "deviants" among them or those who "shy away" from the group processes so often considered essential to social maturity.

It should not be construed from these observations that such people are limited in their learning activities. They simply have not been given adequate attention when the scope of research studies are limited to formal learning. In this study, on the other hand, there have been a number of findings which may lead to a more comprehensive and integrated perspective about all types of learning or sequential information processing.

The more education people already have, the more prone they are to acquire more. This means, of course, that opportunities to learn which are so widespread and so numerous are inequitably utilized. More specifically, if we assume that higher formal education does equip the individual with more information and knowledge to begin with, and if it shapes hi/r attitudes differently from those with lesser formal educational accomplishments, then Americans who might most benefit from further learning are making less use of the opportunities than are Americans already better equipped along the learning front.

Invariably, younger people tend to be more inclined to learn, informally and formally; and they spend more time on more varied projects. Clearly, younger people have somewhat more time on their hands because they are generally less integrated into the ongoing fabric of society and have fewer mutually binding obligations within the existing social structure.

However, older people too have more time on their hands -- in absolute, if not also in relative terms. One might have expected to find a U-shaped relationship with both young and old Americans being more likely to become learners, while the patterns of responsibilities which surrounds or even delineates adulthood could be of interest; but the genuine opportunities are more often unavailable.

Rather, a strong tendency can be noted for younger people to learn more often and more. To the extent to which the younger generations of today might sustain their interest in learning, the future augurs well for self-learning as well as for formal learning, and the new national pattern in the making may increasingly be recognized. To an extent younger people will, or may feel forced to abandon their hunger to learn as they too become more intermeshed in the fabric of daily life. Thus considerable social unrest may occur as coming generations continue to have a desire to acquire knowledge and information but without the capacity to sustain these motivations throughout their lifetime.

Women more than men are likely self-learners, and they also become involved in more varied self-learning exercises. But men, once they become learners, use up more time. It is probably quite tenuous to conclude that this suggests that women are seekers of knowledge and information of various kinds, perhaps, in an effort to anchor themselves in the ever-illusive identity for which knowledge can provide an appropriate nesting.

In turn, men seem to focus more, and thus display higher intensity on the fewer and more specific things they are likely to want to learn. And fewer of them it seems seek to learn, at least in the informal context: thus there is some indication that the fabric of male obligations remain a partial deterrent or one in terms of time or of unrealized opportunities.

People with higher incomes learn more often and are characterized by a greater variety of undertakings. But people with lower income spend more time learning once they become learners. Again, somewhat like the contrast between men and women, the higher income earners seem to be searching, while the lower income earners are focusing. It is not surprising to argue that higher income females contrast in these regards most with lower income males.

Individuals who use the printed media as their important information sources, especially books and magazines, tend to more likely be learners involved in more projects and spend more time learning. By contrast, Americans who rely more on audio (radio) or audiovisual (television) media for their information are less inclined to become learners. Perhaps it is too much to say that television (and radio in part) deter rather than encourage learning. It could be, perhaps, that the learning which occurs through radio and television is assimulated differently.

However, learning would also occur through the printed media; yet their impact on the propensities to learn is generally a positive one. Perhaps this is due to the fact that formal learning, at some point, tends

to require the perusal of the printed word. Thus, people more attuned to the world of print are ipso facto intellectually and emotionally closer to some of the key ways by which knowledge and information is conveyed in modern societies. At least, that constitute the traditionally held expectations of the role of learning in society. From such a viewpoint, the other media play a different role and are largely considered to be surrogates or substitutes for personally intensive learning experiences whether informal or formal.

Persons who consider self-formed groups of equals to be important sources of learning are more likely to participate in courses or formal learning. They are also more likely to be involved in a variety of other learning projects. In turn those who favor group learning of a classroom variety tend to spend more time once they become learners, and they also tend to favor formal learning over self-learning of an informal type.

Americans who view exhibits, visit museums or take trips as important sources of information tend to be engaged in more projects and spend more time in learning activities once they become learners. But self-learning or formal learning is only very little affected by such exposures. Thus it appears that once the desire to learn is present and once it becomes activated, exhibits, museum and field trips become excellent sources for a variety of opportunities. Learners tend to expand their use of them which also affects the time investment in the variety of learning efforts positively.

Personal interest in affairs of the body politic, too, are conducive to learning. All the dependent variables are positively related to political interest. However, admiration for others with interests in international, national or local affairs is actually negatively related to self-learning, to the number of projects and the time invested as well as to formal learning. Thus, it can be construed that the vicarious political interest measure is a proxy for personal interest in the world at large.

Learners are themselves the curious and interesting people. While they may admire general intellectual curiousity in others as well as the interests of others in the world of the fine arts, they do so while trying to emulate them on an equal basis. But the political interests of others or their scholarly endeavors are in themselves unappealing. There is even perhaps a stigmatizing undertone attached to the term "scholarly" interests. Possibly, there is too much of a reminder of the "schools" and "schooling" which tend to be associated with these terms.

Information Processing

From the perspective of the KPDU model (Knowledge Production, Distribution, and Utilization) within which this study was conceptualized, learning is one aspect of information utilization. As a broad topic of social concern, information sources and utilization have been investigated extensively by librarians, adult educators, information specialists and other

social scientists. In relation to information sources and retrieval patterns, it is interesting to consider the response to those sources used to find out that learning opportunities of any kind exist. Only learners, whether informal or formal, were asked to respond to this question.

Many investigators have found patterns in information retrievals and in utilization which are associated with the various demographic and sociocultural variables. For example, those with a lower educational and economic level are presumed to use television or the neighborhood "elders" to the exclusion of a greater variety of sources. Conversely, those who are more cognitively flexible and pluralistic in their values are presumed to use not only a greater variety of sources but also those which are more complex such as news magazines, books, libraries, etc.

Some of the analyses in this study would tend to support such generalizations. For example, non-learners rate radio and television more importantly as sources of information than do all of the learners combined. On the other hand, formal learners think that organized groups and classes are superior sources of information than those who do not learn. The differences among other sources were less pronounced, such as travel, phonorecordings or magazines. Among several of the other sources there were no significant differences at all. This suggests that many people may employ whatever source that comes readily available.

A distinction can be made between the use of information for limited or sporadic periods of time and the more sustained application of it to continuing learning projects. The categories of use of information as ranked by continuing learners appear to be related to the sophistication with which learning is undertaken, such as:

Clarify a situation and make progress towards a goal.

Understand and diagnose the situation and thus achieve self-control.

Choose between options or alternative ways of doing something.

The library as one community resource center was selected because of its presumed "visability" to obtain data on frequency of use despite the fact that response may be "self-perceptual" and would need to be refined in further studies. The data can be of interest because very few national studies of library use, based on a probability sample, are conducted in any five or ten-year period. However, despite the "hawthorne" effect of a direct question, only 40.3% of the American population used the library during the year previous to November 1976 on a regular or occasional basis. What seems to be an even more disturbing fact is that almost 60% (59.7%) have never used the library or used it so infrequently as to respond with a "don't know" or "no answer."

The organizational life of the respondents was explored. Organized groups may be sources of information and learning; but they are also areas

of life where information and learning can be applied. It appears that the distribution of memberships held by continuing learners is higher than for the population as a whole and with pronounced differences from non learners. Over half the non-learners held no organizational memberships whatsoever. Apparently organizational involvement provides a framework within which to apply individual learnings.

Somewhat more than 3 out of every 5 Americans (64.7%) spend 1 day or less a week in volunteering. The amount of time spent in volunteering tends to increase with learning activities. Apparently those who are already involved find time to hold more organizational memberships than others; and these persons also are frequently elected to office. Findings such as these are common in other studies of learning; but, unfortunately, they tend to support a hidden assumption that learning and information processing is or "should be" oriented towards group activity.

The concept of an episode has been established by this and other studies as the basic unit around which the development of a learning project is constructed. A learning episode has been defined as a period of time that is held together by the similarity of intent, activity or place within which it is involved. The episode has a definite beginning and ending, and is not interrupted to any extent by some other activity or purpose. Episodes are not just mental constructs superimposed upon human behavior but correspond to actual "chunks" of time and activity into which most adults appear to divide their working hours in everyday life.

This episodic "span of attention" may be as brief as ten minutes or last more than an hour. Among respondents who perceived themselves to be continuing learners in November 1976, 73.2% had deliberately looked up some information within the previous 7 days. The amount of time spent in the retrieval process varied, with 86.5% of the respondent's time limited to one hour. In thinking about the information obtained in the last retrieval, 84.5% of the respondents needed the better part of an hour to develop learning tactics and presumably their thoughts as well.

Sustained attention reduces "random" activity, discovers the information and builds the competence to plan an entire learning sequence. In the process, new competencies are built by observing and receiving "instruction" from environmental imperatives; by making trial performances before adjusting to feedback; and by growing more flexible and independent. The choice of a particular planning mode seems to be based to a considerable extent on individual and transactional considerations, at least initially.

Competence in learning is a patterned activity designed to perform a coordinated set of behaviors and accomplish a goal set. Self-initiated learning by respondents involved the comparing of behavioral patterns against remembered or retrieved knowledge as well as the modification of perceptual connections. As predicted by previous researchers, continuing learners tend to articulate behavior in the following ordinal display of questioning modes:

Intransitive questions explore the nature of some subject: What is it? Where did it come from? Since they are predicated on intransitive verbs, answers to such questions elicit reports in terms of description, definitions or comparisons.

Transitive questions with both a subject and direct object denote a dynamic relationship. Since they probe into the effect of one thing upon another, response requires explanations of cause and effect, or connections between fact and theory, translations and evaluations.

Subjunctive questions explore possibilities and syntheses of assumptions, cause and effect. They predicate change, new interpretations and knowledge based on conclusions, predictions and integrations.

In real life, the individual apparently mulls such questions over in mind. They may lie dormant for weeks while the strength of their interest dissipates if the stimulus is not reinforced. If, however, the individual has been under siege as it were from several stimuli, s/he may be induced or motivated to become involved with episodic information processing in the following behavioral steps as ranked by respondents:

Naming and describing an area not only separates it from other areas but allows the individual to concentrate, screen out interference and in general "get a handle" on things.

Analyzing the referent situation into constraints and opportunities helps the learner to get going without coming up immediately with a full-blown statement of the topic, or problems of interest.

Free associations, not inhibited by outside expectations allows the individual to "play around" with any variety of if-then "taxonomies" about the nature, effects and conclusions implied by hi/r concern.

Overt questions, tasks or "shopping" lists of things to do indicate that the learner is ready to "go public" about hi/r project and talk with other people about it.

Blueprint emerges from "going public" including articulations about wants (goals) and activities which in practice remain undifferentiated.

Satisfaction occurs when the learner tries somethings out and finds that feedback is favorable where feedback is largely nonverbal, supported perhaps by a brief word or appreciation, or where feedback is just a feeling of "that's enough."

In the dynamics of individual development, the planning of a learning project grows out of and extends the episodic behavior of a span of attention. If the external imperatives are strong enough, the individual tends to link these together into the sequential activity of several related episodes which defines a learning project. From this point of view, it is probably not surprising that so many Americans are involved in lifelong learning.

Professional Implications

In drawing out these recommendations from the study, it should not be concluded that they are limited to librarians. The findings of this type of research have implications for a broad range of social professions and disciplines. It is to the benefit of the citizen that these recommendations are made. Since that citizen has increasingly taken on the characteristics of a continuous learner, s/he will become increasingly impatient with a "run around" from one professional consultant to another.

In general, it is becoming increasingly evident that the learning needs of Americans cannot be serviced from a single agency however visible library service has traditionally been presumed to be. The prevalence of self-initiated and self-planned learning demands a "shopping-center" access to the delivery of appropriate human services. Librarians will increasingly be expected to participate on the specialized teams required by the demands of the new learning society.

The librarian's traditional message of quality service to the individual appears to be still relevant to the needs of the times. But this message has to be reformulated in the idiom of the day. Of even greater priority, it needs to be given a firm foundation in the psychology of learning behavior and become enriched with the personal competencies which come only from effective group participation.

All people can and presumably do learn. At least, the findings of this study would seem to indicate that learning is almost a fact of life. Encouragement, a helping consultation and professional support appear to be more significant in bringing learning out in people than characterizations based on the traditional demographics.

In other words, learning is almost an ubiquitous response to a situation. The stronger the contextual imperative, the more likely is sequentiality to occur. However, sustained effort is impossible to maintain when the life coping skills are difficult to perform and the availability of professional help is distant. This distance in accessibility may be either a matter of locational or of policy limitations.

Some of the traditionally significant predictor variables may still have some value in indicating formal learning. But apparently along with the concept of class, self-planned learning as a unique phenomenon is beginning to disappear. Certainly, the role of the demographics are no

longer unique explanations of the reasons and conditions for learning which continues to spread. Learning is a way of life and can not be considered as a particular characteristic of demographically "mature" persons in the sociological sense.

The support of survey research in a university setting has considerable pay-off value to funding sources even though the field work required by a national survey demands a nation-wide data collection network. But once the data has been collected under quality controlled conditions, the reduction and analysis of that data can be efficiently handled by the small or large teams available from a wide range of specialized personnel resources available to library school faculty largely to be found only in major universities.

The recommendations of this study grow out of the implications of the findings. These recommendations are in two parts -- those concerned with research and those for professional applications:

Research Recommendations

Since this study has addressed one of the major problems which has continuously plagued librarianship, the second problem of the effect of message treatment on people should also be investigated.

Since the traditional demographics exhibit considerable weakness as sociocultural predictors, components of the contextual situation within which information is processed may have greater discriminant value.

Since research depends upon the extensive resources and flexible teams of specialists to be found in the university, library schools in major universities should begin to train the social researchers needed when the profession becomes involved with the social psychology of individual, group and community problems.

Professional Recommendations

Since administrators and supervisors now have the "evidence" of prevalent learning behavior, current limited service patterns need to be examined and changed to meet the conditions of the new learning society.

Since so many adults are involved with sequential learning activities, the services of the "floor" librarian could be reexamined in the light of the case-load patterns required by the continuous involvement of learners.

Since learning adults initially "waste" a great deal of time in what appears to be random activity, librarians trained in

developmental counseling could be more effective in helping clients articulate needs.

Since the interests of the continuing learner grow out of the negotiations of everyday life, librarians would be wise to access community resources indexed by coping-skill categories that are more appropriate to the information brokerages and referrals needed by involved citizens.

Since so many learners have negative tendencies towards group activity, librarians could help individuals increase social competencies by counseling for group participation.

Since self-planned learning develops out of the imperatives of daily life, community-oriented research specialists should be employed by local library systems to plan and conduct the market analysis and audience studies needed to support relevant changes in policy.

Since learning psychology and instructional design have scarcely ever been considered as service prerequisites, recurrent professional education has a theme to emphasize for the next five years.

So often when recommendations are couched in the phraseology of informal learning, interdisciplinary teams and community psychology, many types of librarians turn a deaf ear or "pass the buck" by pointing the finger of responsibility at the public librarian. If these recommendations are thought to be limited to any one type of librarian, much of the emerging social science approach to librarianship will be doomed. In point of fact, it is the academic and school librarians who have the larger responsibility because of the greater range of specialized resources available to them.

Recommendations such as these will not just be picked up and acted upon by the average librarian no matter how strongly supported by research findings. It used to be said that it is the administrator as a leader in the profession who is "on the spot" as it were. But today it is the supervisory staff who hold the responsibility and thus the power to accept and act on these recommendations.

Perhaps of even prior attention, however, is the imperative felt by librarians in forcing changes upon the training programs of the professional schools. For how realistic is it actually to expect rapid change or even any change at all in the inservice programs of libraries? Can expectations such as these be anything more than doomed when one finds that those library staffs have been trained in schools where human learning or human communication are not spoken or, worse, remain but "dirty" words?

This study supports a behavioral psychology which is in conformity with the traditional principles of librarianship. As to practice or the

application of those principles, it may take more than the findings of this study to encourage any implementation at all. Nevertheless, the basic psychology is available (and hopefully will be expanded in further research) whenever librarians are forced by external imperatives to participate with the interdisciplinary teams required in today's community.

Some of these social imperatives have already forced librarians, however hesitantly, into such developments as the information broker and the learning consultant. These services will remain as they now are largely limited to those few people who do use libraries anyway until librarians team up with other professionals in the community dedicated to the delivery of human services through shopping center access. Then, librarians will be forced to turn to a behavioral psychology which accommodates their principles in a "language" understandable to the cohorts of other helping professionals in the community.

Librarianship has the opportunity in this last quarter of the twentieth century to realize the human objectives held for it by several generations of leaders. Resource sharing networks have made the redeployment of staff possible, and given librarians the opportunity to develop a truly professional helping relationship. This study has added to that endeavor by defining the psychological groundwork for its realization.

APPENDIX A

INDIVIDUAL SELF-PLANNED LEARNING

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APPENDIX B

GLOSSARY OF TERMS

Within the profile being developed, the preliminary literature searches have already revealed certain concepts which keep coming up regardless of the area of focus and regardless of the level of analysis. These themes can be stated as definitions which may serve an integrative influence as the literature analysis, the data collection and interpretation develop.

Adaptive control organism (usually human) is the micro-system which negotiates its way through the physical, KPDU and socio-cultural environments that are always perceived as transactional and thus informative.

Communication (nonverbal and verbal) is a process (persuasive) of engendering meaning in (an) other person(s) by creating the conditions within which it can occur or be discovered.

Episode of Learning is a short (perhaps 20-40 minutes) uninterrupted period of time similar to span of attention which has a definite beginning and ending.

Formal Learning is the participation in a course like activity of a sequential nature where content and sequence are largely determined by one or more persons (e.g. teacher) not involved as participants.

Group Resources: Sometimes learners attend a group or conference. In this instance, the group (or its leader) makes the decisions about the activities and the subject matter to be learned. The groups considered by the participants are less formal than in classroom instruction. They are more a resource, which suggests and guides, rather than holding the participant to a detailed syllabus. Informal group meetings help the learner estimate the current level of personal knowledge or the progress being made in acquiring some skill.

Human Resources: The planning or deciding on details may come from another person who helps the learner in a one-to-one situation as a human resource who can provide guidance and advice. There is a need for this kind of helper to fill the gap between the individual's level of competence and the skills necessary to access appropriate re-

sources. Learners may know the sort of person they need or the kind of knowledge such a person would have, but they are not often able to think of some particular individual who has the competence to help.

Information processing includes the behavioral dynamics (intra-and-inter-personal) set up in a human adaptive control organism when confronted with informative data.

Information space is the totality of objects and artifacts (real or made), various visual (painting) and audio (music) representations as well as the speech and sounds of real life which have not been recorded--in other words, all the stimuli to which the senses repond, including humans as resource persons.

Information data (newsworthy items) has surprise value (in the Shannon sense) including those knowledge and-or information components which have temporarily become stimuli to one or more human beings and strong enough to cause them to pay attention.

KPDU (knowledge production, dissemination and utilization) is the macro-system encompassing the scientific and professional communities, the various media of communication (dissemination channels) and the network of media, library and information centers which store and retrieve documents, as well as the general effect of that knowledge (diffusion of innovations) on the various collectivities of individuals in society.

Knowledge space is the corpus of human recorded thoughts in whatever form it is composed and produced, including the visual and audio if accompanied by language discourse.

Learning (project) is a series of episodes on one or more closely related topics consciously and deliberately planned so that each episode activates developing behavioral patterns which achieve articulated goals.

Motivation is the response made to environmental influences whether external or internal and is expressed in activites or projects related to some goal set.

Self-initiated learning is a systematic and sequential consideration of the information associated with an interest or concern with the deliberate intent to achieve some purpose or goal.

Self-Planned Resources: In many instances, learners retain the major responsibility for day-to-day planning and decision making. A learner tries to detect specific errors in current knowledge, or specific weaknesses in current skill or style. This person studies his/her own particular needs and decides on the criteria to be used in selecting a particular resource. Such an individual also gathers information on the advantages, weaknesses, accessibility, level and suitability of certain resources or activities.

Span of Attention (10-60 minutes) is the period of time which it takes an individual to process the informative data received from stimuli through a cycle of behavior.

APPENDIX C

TIME INTERVIEW STARTED: _____ 65211
TIME INTERVIEW ENDED: _____ 101876
LENGTH OF INTERVIEW: _____

SURVEY OF INDIVIDUAL SELF-PLANNED LEARNING

1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 29 Data Card #1

I'm _____, and I'm working on a survey being conducted by Opinion Research Corporation of Princeton, New Jersey. We're talking to people about activities they engage in and things they have tried to learn on their own. I'd very much like to interview you. The interview will be completely confidential.

1. I'm interested in listing the things you have tried to learn during the past year on your own initiative.

   When I say "learn," I don't mean learning the sorts of things that people learn in schools and colleges. I mean any sort of deliberate effort at all to learn something, or to learn how to do something.

   Perhaps you tried to get some information or knowledge -- or to gain new skills or improve your old ones -- or to increase your sensitivity or understanding or appreciation. Just as long as you spent some number of hours at these efforts to learn something.

   Can you think of any efforts like this that you have made during the past 12 months? Did you actually complete some learning project on your own -- that is, not in a formal teaching setting for credit? Have you, in other words, gone as far as you wanted to and felt that you had finished the particular projects? What were the projects or the things that you learned?

(IF RESPONDENT NAMES ANYTHING, CHECK "YES" AND LIST THE PROJECTS OR THE THINGS LEARNED UNDER "TOPIC" ON PAGE 3. THEN TAKE RESPONDENT THROUGH ALL THREE PROBES SO AS TO GET AS COMPLETE A LIST OF TOPICS AS POSSIBLE. IF RESPONDENT DOES NOT NAME ANYTHING, ALSO CONTINUE THROUGH ALL THREE PROBES. DO NOT ACCEPT "NO," "DON'T KNOW," OR "NO ANSWER" UNTIL YOU HAVE BEEN THROUGH ALL THREE PROBES AND RESPONDENT STILL IS UNABLE TO NAME ANY TOPIC. CHECK "YES" IF A TOPIC IS NAMED AT ANY POINT IN THE PROBING, BUT ALWAYS GO THROUGH ALL THREE PROBES TO GET AS COMPLETE A LIST AS POSSIBLE.)

YES	-1	
NO	-0	
DON'T KNOW	-8	→ GO TO Q.10
NO ANSWER	-9	

30/9

2

Probe #1

Try to think back over all of the past 12 months -- right back to last year. I am interested in any deliberate effort you made to learn anything at all. Anything at all can be included, regardless of whether it was easy or hard, big or little, important or trivial, serious or fun, highbrow or lowbrow.
(PAUSE -- LIST ANYTHING MENTIONED UNDER "TOPIC.")

Probe #2

It doesn't matter when your effort started, as long as you have spent some time at it sometime during the last year.

We want to get as complete a list as possible, because we think that people make far more attempts to learn than anyone realizes. We can include any sort of information, knowledge, skill, or understanding at all that you have tried to gain -- just as long as you spent some number of hours at it during the past 12 months. What else do you recall?
(PAUSE -- LIST ANYTHING MENTIONED UNDER "TOPIC.")

Probe #3 -- HAND RESPONDENT CARD "A."

Now, I have a list of some of the things people learn. It may remind you of other things that you have tried to learn during the past 12 months. Read and try to think about whether you have tried to learn something similar.
(GIVE RESPONDENT TIME TO READ THE EXHIBIT CARD. LIST ANYTHING MENTIONED UNDER "TOPIC.")

TAKE BACK CARD "A."

SELF-PLANNED LEARNING

	Q.1 Topic	Q.1a Hours
1.	_____	____
2.	_____	____
3.	_____	____
4.	_____	____
5.	_____	____
6.	_____	____
7.	_____	____
8.	_____	____
9.	_____	____
10.	_____	____
11.	_____	____
12.	_____	____
13.	_____	____
14.	_____	____
15.	_____	____
16.	_____	____
17.	_____	____
18.	_____	____

3

1a. (FOR EACH TOPIC LISTED, ASK):
Would you please tell me approximately how many hours overall you spent in learning (topic) ? _____
(ENTER ACTUAL HOURS NEXT TO EACH TOPIC.)

Okay, thank you. That gives us a fairly complete list. If you suddenly think of something else you have learned, though, please tell me.

4

2. Now, let's take any one of your learning projects which you have listed. I would like to find out how you went about doing it. (HAVE RESPONDENT CHOOSE ONE OF THE TOPICS. ENTER IT AND THE HOURS SPENT ON IT BELOW.)

Topic	Hours
_____ 31-33/999	34-36/999

HAND RESPONDENT CARD 1.

2a. Here is a card that describes some of the main ways by which people who try to learn something determine their detailed day-to-day plan on how to go about doing it.

Please look these items over and tell me which ones, if any, apply to your own experience. If there is something else you do that is not listed on the card, would you mind telling me how you actually go about the detailed planning of a learning project?

I make all detailed plans for the learning by myself.	-1	37/0,9
I get detailed direction regarding what to learn or what to do from some object (from a nonhuman source).	-1	38/0,9
The planning and deciding on details comes from one other person who helped me in a one-to-one situation (a human resource).	-1	39/0,9
I tried to attend a group meeting or a workshop or conference	-1	40/0,9
Other: (Please specify) _____		
_____	-1	41/0,9
_____		

TAKE BACK CARD 1.

5

INTERVIEWER: QUESTIONS 3 TO 7d REFER TO THE TOPIC ENTERED ON Q.2. REMIND RESPONDENT OF THIS, IF IT IS NOT CLEAR.

3. Which one of the following answers describes your learning project at this time? (READ ANSWER CATEGORIES TO RESPONDENT.)

[-0] NOT VERY ACTIVE -- that is, you have dropped it or completed it, or you have set it aside for awhile (or you are spending much less time at it now than you were before)

[-1] DEFINITELY ACTIVE -- that is, are you definitely continuing this learning effort right now? Are you spending about as much time as ever at it? 42/9

4. Please think for a moment about how much knowledge, information, and understanding you gained as a result of this one learning project -- or think about how much your skills and habits improved -- or how much your attitudes or sensitivity changed. Would you say that altogether -- (READ ANSWER CATEGORIES TO RESPONDENT.)

[-2] you learned a large amount or changed a great deal?

[-1] you learned or changed a modest amount? 43/9

[-0] you just changed or learned a little?

5. How enthusiastic have you been about having this new knowledge and skill? (READ ANSWER CATEGORIES TO RESPONDENT.)

[-2] VERY ENTHUSIASTIC

[-1] QUITE ENTHUSIASTIC OR FAIRLY ENTHUSIASTIC 44/9

[-0] NOT ESPECIALLY ENTHUSIASTIC

6. Let's set aside your own benefits for a moment and look at any benefits for other people. Your new knowledge and skill might have been of some benefit to your family, your friends and relatives, your boss, your company or organization, your job, or even to people who live in other places.

To what extent did the knowledge and skill you gained provide some benefit to people other than yourself? (READ ANSWER CATEGORIES TO RESPONDENT.)

[-3] TO A FAIRLY LARGE EXTENT

[-2] TO A MODEST EXTENT 45/9

[-1] ONLY TO A SMALL EXTENT

[-0] NOT AT ALL

6

HAND RESPONDENT CARD 2.

7. Here are listed some of the main reasons for which people prefer to learn on their own, instead of taking a course or class somewhere.

7a. Which one of these reasons would you consider to be the most important one for your decision to learn this project on your own?
(MARK "3" FOR ITEM NAMED MOST IMPORTANT.)

7b. Which one is next most important?
(MARK "2" FOR ITEM NAMED NEXT MOST IMPORTANT.)

7c. Which one is least important as best you can tell?
(MARK "1" FOR ITEM NAMED LEAST IMPORTANT.)

7d. And which one is next least important to you?
(MARK "0" FOR ITEM NAMED NEXT LEAST IMPORTANT.)

(NOTE: MARK "8" FOR EACH REASON NOT RATED IN ABOVE QUESTIONS.)

I wanted to learn this right away and couldn't wait until a class might start.	-3	-2	-1	-0	-8	46/9
I didn't know of any class that taught what I wanted to know.	-3	-2	-1	-0	-8	47/9
I don't like a formal classroom situation with a teacher.	-3	-2	-1	-0	-8	48/9
Transportation to a class is too hard or expensive.	-3	-2	-1	-0	-8	49/9
Desire to set my own learning pace.	-3	-2	-1	-0	-8	50/9
I wanted to keep the learning strategy flexible and easy to change.	-3	-2	-1	-0	-8	51/9
Desire to put my own structure on the learning project.	-3	-2	-1	-0	-8	52/9
Desire to use my own style of learning.	-3	-2	-1	-0	-8	53/9
Lack of time to engage in a group learning program.	-3	-2	-1	-0	-8	54/9
I don't have enough money for a course or a class.	-3	-2	-1	-0	-8	55/9
Other: (Please specify) _____ _____ _____	-3	-2	-1	-0	-8	56/9

TAKE BACK CARD 2.

7

HAND RESPONDENT CARD 3.

8. What steps do you usually take in making your planning decisions?

In the process, as you get information on a topic over some period of time from various sources and explain it to yourself or other people, can you think of the ways you go about it?

Do any of the steps listed on this card describe what you do? Could you put them in the order which you use them? Which one would be first, which one second, and so on?

(HAVE RESPONDENT RANK AS MANY STEPS AS POSSIBLE. ENTER RANK NUMBERS IN APPROPRIATE BOXES.)

I talk about the interest I have and the situation which made me think about it.	☐	57/1-7,9
I try to clarify it by thinking about the problems in it, and what I want to get out of it.	☐	58/1-7,9
I try to organize what I want to get out of the study project.	☐	59/1-7,9
Look for some information that will help me, and then try to organize what I have found out.	☐	60/1-7,9
When it seems like I have a good approach, I try it out by talking to several people, or put it into action if it is something I can do.	☐	61/1-7,9
After it sounds all right, or it works, I just seem to lose interest or go on to something else.	☐	62/1-7,9
Other: (Please specify) _____		
_____	☐	63/1-7,9
_____		

TAKE BACK CARD 3.

8

9. When you learn something on your own rather than in a more formal course, do you feel that you should be able to get academic credit for what you have learned if you should desire academic credit?

YES	-2	→ GO TO Q.9a
DEPENDS	-1	→ GO TO Q.9a AND Q.9b
NO	-0	→ GO TO Q.11
DO NOT SEEK ACADEMIC CREDIT	-3	
DON'T KNOW	-8	
NO ANSWER	-9	

64/9

IF "YES" OR "DEPENDS" ON Q.9, ASK:

9a. Who should be able to award such a credit?

_____

_____

_____

IF "DEPENDS" ON Q.9, ASK:

9b. What does it depend on? How would you explain this?

_____

_____

_____

9

10. We are interested in finding out the things you may have learned during the last 12 months by way of courses or school-like activities, rather than things learned completely on your own. Have you taken any courses or workshops or seminars in the last 12 months?

☐ YES

☐ NO → IF "NO" HERE AND ALSO ON Q.1, GO TO Q.16a.
IF ONLY "NO" HERE, CONTINUE WITH Q.11

65/9

IF "YES" ON Q.10, ASK:

10a. What were the topics covered or included in this more formal learning?

Q.10a Topic	Q.10b Where Taken	Q.10c Hours

10b. (FOR EACH TOPIC LISTED, ASK:)
Where was this course, workshop, or whatever held?

10c. (FOR EACH TOPIC LISTED, ASK:)
How many hours overall did you spend in this course or workshop?

10

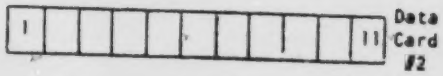
HAND RESPONDENT CARD 4.

11. From which of these sources do you find out that learning opportunities of any kind exist?

TELEVISION	-1	66/0,9
RADIO	-1	67/0,9
NEWSPAPER	-1	68/0,9
LIBRARY DISPLAY	-1	69/0,9
COMMERCIAL DISPLAY	-1	70/0,9
LIBRARY FILES	-1	71/0,9
WORD OF MOUTH	-1	72/0,9
AGENCY FILES	-1	73/0,9
HOT LINE	-1	74/0,9
LABOR UNION	-1	75/0,9
OTHER: (Please specify) _____		
_____	-1	76/0,9
_____		

TAKE BACK CARD 4.

11



HAND RESPONDENT CARD 5.

12. Despite the length of time spent in finding out about something, people have various goals for going about that learning. On this card is a simple scale. Zero stands for something that is entirely unimportant, and 10 stands for something that is extremely important. The numbers in between, of course, represent various degrees of importance. I am going to read several goals or objectives that you might pursue when you learn. For each one, please tell me how important it is to you personally -- using the scale.
(READ EACH OBJECTIVE. ENTER SCALE NUMBER IN BOX BY EACH OBJECTIVE.)

IMPROVE JOB SKILLS	☐	12-13/99
INCREASE KNOWLEDGE	☐	14-15/99
MEET PEOPLE	☐	16-17/99
CURIOSITY, INTEREST	☐	18-19/99
PEACE OF MIND	☐	20-21/99
TEACH SOMEONE	☐	22-23/99
IMPRESS PEOPLE	☐	24-25/99
EDUCATIONAL CREDIT FOR A DIPLOMA, CERTIFICATE, OR DEGREE	☐	26-27/99
SOLVE PROBLEMS	☐	28-29/99
COMPLETE A TASK	☐	30-31/99
MEET RESPONSIBILITY	☐	32-33/99

12

12a. There may be other important goals which I have not mentioned. If there are such other important goals, please tell me what they are.

_____

_____

_____

13. Now, I'm going to read several possible areas of life in which you might use what you learn in your learning projects. Using the same scale from zero to 10, rate how important to you each area of life is with respect to putting your learning to use.
(READ EACH AREA. ENTER SCALE NUMBER IN BOX BY EACH AREA.)

PERSONAL DEVELOPMENT	☐	34-35/99
VOCATIONAL (JOB-RELATED)	☐	36-37/99
PUBLIC AFFAIRS	☐	38-39/99
VOLUNTARY ACTIVITY	☐	40-41/99
HOBBIES AND RECREATION	☐	42-43/99
HOME AND FAMILY	☐	44-45/99
RELIGION	☐	46-47/99
AGRICULTURE, TECHNOLOGY	☐	48-49/99
GENERAL EDUCATION	☐	50-51/99
OTHER: (Please specify) _____		
_____	☐	52-53/99
_____		

TAKE BACK CARD 5.

HAND RESPONDENT CARD 6.

14. People have preferences for the way they learn. On this card are listed some of the main methods by which people learn.

14a. Which one is the best method for you?
(MARK "3" FOR BEST METHOD.)

14b. And which one, if any, is second best?
(MARK "2" FOR SECOND BEST.)

14c. Which one is the worst method for you?
(MARK "1" FOR WORST.)

14d. And which one is second worst?
(MARK "0" FOR SECOND WORST.)

(NOTE: MARK "8" FOR EACH METHOD NOT RATED IN ABOVE QUESTIONS.)

HEARING OR LISTENING	-3	-2	-1	-0	-8	54/9
READING	-3	-2	-1	-0	-8	55/9
SEEING OR OBSERVING	-3	-2	-1	-0	-8	56/9
SOLVING PUZZLES OR PLAYING SOME GAMES	-3	-2	-1	-0	-8	57/9
HAVING A CHANCE TO TALK TO SOMEONE, ASKING QUESTIONS	-3	-2	-1	-0	-8	58/9
PRACTICE, TRIAL AND ERROR	-3	-2	-1	-0	-8	59/9
MAKING NOTES AND WRITING	-3	-2	-1	-0	-8	60/9
OTHER: (Please specify) _____						
_____	-3	-2	-1	-0	-8	61/9
_____						

TAKE BACK CARD 6.

14

HAND RESPONDENT CARD 7.

15. Where would you say you most like to do your learning? On this card are listed some of the main places where people do their learning.

15a. Which one do you like best?
(MARK "3" FOR BEST.)

15b. Which one is the next most preferred place?
(MARK "2" FOR NEXT MOST.)

15c. And which one do you like least as a place for your learning?
(MARK "1" FOR LEAST.)

15d. And next least?
(MARK "0" FOR NEXT LEAST.)

(NOTE: MARK "8" FOR EACH PLACE NOT RATED IN ABOVE QUESTIONS.)

HOME	-3	-2	-1	-0	-8	62/9
LIBRARY	-3	-2	-1	-0	-8	63/9
OUTDOORS	-3	-2	-1	-0	-8	64/9
CLASSROOM	-3	-2	-1	-0	-8	65/9
PUBLIC EVENTS (LECTURES, CONCERTS)	-3	-2	-1	-0	-8	66/9
DISCUSSION GROUP	-3	-2	-1	-0	-8	67/9
ON-THE-JOB TRAINING	-3	-2	-1	-0	-8	68/9
OTHER: (Please specify) _____						
_____	-3	-2	-1	-0	-8	69/9
_____						

TAKE BACK CARD 7.

ASK EVERYONE

16a. When was the very last time that you looked up some information? How long ago?

_____(Days) OR _____(Weeks) OR _____(Months) 70-72/999

16b. About how much time did you spend on that particular occasion looking up the information you wanted or needed?
(OBTAIN ANSWER IN MINUTES.)

_____(Minutes) 73-75/999

16c. Did you spend some time thinking about the information you got this very last time? About how much time did you spend thinking about it?
(OBTAIN ANSWER IN MINUTES.)

_____(Minutes) 76-78/999

1										11	Data Card #3

17. I will now read you a few statements. Please indicate for each one of them whether it is something you always admire in other people, or something you always dislike in other people, or something that depends on the situation whether you admire it or not.

	ALWAYS ADMIRE	DEPENDS	ALWAYS DISLIKE	DON'T KNOW	
Having a keen interest in international, national, and local affairs	-2	-1	-0	-8	12/9
Having a strong intellectual curiosity	-2	-1	-0	-8	13/9
Developing an appreciation of the fine arts -- music, drama, literature, and ballet	-2	-1	-0	-8	14/9
Having an active interest in all things scholarly	-2	-1	-0	-8	15/9

16

HAND RESPONDENT CARD 8.

18. I would like now to read you a brief list of some of the main sources which people go to when they want to know something, or get information on any subject. Would you please tell me how important, in general, each of these sources is in your own efforts to know or find out something. Again, zero stands for something that is completely unimportant, and 10 stands for an extremely important source. You can, of course, use any number of this scale, depending on how important each of these sources is to you.
(READ EACH SOURCE. ENTER SCALE NUMBER IN BOX BY EACH SOURCE.)

CLOSE FRIEND OR RELATIVE	☐	16-17/99
EXPERT WHO WAS ALSO A FRIEND OR RELATIVE	☐	18-19/99
PAID EXPERT	☐	20-21/99
BOOKS	☐	22-23/99
GROUP, CLASS OR LECTURE SERIES WITH AN INSTRUCTOR	☐	24-25/99
SELF-FORMED GROUP OF EQUALS	☐	26-27/99
MAGAZINES	☐	28-29/99
PHONORECORDS AND TAPE RECORDINGS	☐	30-31/99
RADIO	☐	32-33/99
FILMS	☐	34-35/99
NEWSPAPER	☐	36-37/99
TELEVISION	☐	38-39/99
EXHIBITS, MUSEUMS, FIELD TRIPS	☐	40-41/99
INDIVIDUAL INSTRUCTION OR TUTORING	☐	42-43/99
CORRESPONDENCE STUDY	☐	44-45/99
BROCHURES, NEWSLETTERS, MAILINGS	☐	46-47/99
HUMAN RELATIONS TRAINING, ROLE-PLAYING	☐	48-49/99
BROWSING IN LIBRARIES	☐	50-51/99
TRAVEL	☐	52-53/99

TAKE BACK CARD 8.

17

HAND RESPONDENT CARD 9.

19. Information is used for various purposes. Do any of the reasons listed on this card explain your use of information?

19a. Which one is the most important?
(MARK "3" FOR MOST.)

19b. Which is the next most important?
(MARK "2" FOR NEXT MOST.)

19c. Which one is the least important?
(MARK "1" FOR LEAST.)

19d. Which is the next least important?
(MARK "0" FOR NEXT LEAST.)

(NOTE: MARK "8" FOR EACH PURPOSE NOT RATED IN ABOVE QUESTIONS.)

CHOOSE BETWEEN OPTIONS OR ALTERNATIVE WAYS OF DOING SOMETHING	-3	-2	-1	-0	-8	54/9
REMOVE A BARRIER	-3	-2	-1	-0	-8	55/9
JUST TO HAVE SOMETHING TO DO	-3	-2	-1	-0	-8	56/9
UNDERSTAND AND DIAGNOSE A SITUATION	-3	-2	-1	-0	-8	57/9
MAKE PROGRESS TOWARD A GOAL	-3	-2	-1	-0	-8	58/9
CLARIFY A SITUATION	-3	-2	-1	-0	-8	59/9
ACHIEVE SELF-CONTROL	-3	-2	-1	-0	-8	60/9
PLAN A LEARNING PROJECT	-3	-2	-1	-0	-8	61/9
WIN APPROVAL BY OTHERS	-3	-2	-1	-0	-8	62/9
OTHER: (Please specify) _____						
_____	-3	-2	-1	-0	-8	63/9
_____						

TAKE BACK CARD 9.

18

20. Would you consider your use of the library to be regular, occasional, rare, or have you never used a library?

REGULAR	-3	
OCCASIONAL	-2	
RARE	-1	64/9
NEVER USED	-0	→ GO TO Q. 21

IF LIBRARY IS USED ("REGULAR," "OCCASIONAL," OR "RARE" ON Q.20), ASK:

HAND RESPONDENT CARD 10.

20a. Using this card as a guide, how do you usually go about using the library?

ASK A LIBRARIAN	-1	65/0,9
LOOK IN CARD FILE	-1	66/0,9
LOOK FOR BOOKS ON SHELVES MYSELF	-1	67/0,9
BROWSE IN NEW BOOKS AREA	-1	68/0,9
BROWSE IN MAGAZINE AREA	-1	69/0,9
BROWSE IN REFERENCE BOOKS (ENCYCLOPEDIA, HANDBOOK, MANUAL)	-1	70/0,9
OTHER: (Please specify)		
_____	-1	71/0,9
_____		

TAKE BACK CARD 10.

21. Do you belong to any organizations? Please include religious, social, fraternal, educational, or recreational organizations. If yes, how many?

72-73/00,01,...,99

(Number of organizations)

IF ANYTHING OTHER THAN NONE ON Q.21, ASK:

21a. During the past year, have you been an officer of any of these organizations or the chairperson of one of its committees?

YES [-1]

NO [-0]

74/9

22. During the last 12 months, have you done any voluntary work to help a group, an organization, an agency -- whether governmental or private?

YES [-1]

NO [-0] → GO TO Q.23

75/9

IF "YES" ON Q.22, ASK:

22a. About how many hours per week would you say you have spent volunteering?

_____

(Hours)

76-78/999

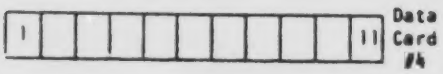
22b. What kind of activities have you performed as a volunteer?

_____

_____

_____

79-80/99



23. INTERVIEWER: Please check one of the following categories from observation:

BLACK	-1	12/9
WHITE	-2	
ORIENTAL	-3	
SPANISH	-4	

24. Also check one:

MALE	-1	13/9
FEMALE	-0	

Now I would like to ask a few questions for statistical purposes only.

25. About how long have you lived in this community?

LESS THAN 1 YEAR	-1	14/9
1 - 5 YEARS	-2	
6 - 10 YEARS	-3	
OVER 10 YEARS	-4	

26. How many times have you moved your residence since 18 years of age?

_____ 15-16/99
(Number of Times)

27a. Did you spend your childhood in a town, city, or on a farm?

TOWN	-1	
CITY	-2	17/9
FARM	-3	→ GO TO Q.28

IF "TOWN" OR "CITY" ON Q.27a, ASK:

27b. How large a town or city was that?

UNDER 1,000	-01	
1,000 - 2,499	-02	
2,500 - 4,999	-03	
5,000 - 9,999	-04	18-19/99
10,000 - 49,999	-05	
50,000 - 100,000	-06	
100,000 OR MORE	-07	

28. What are the ethnic roots of your family? That is, of what national origin, no matter how far back, do you consider yourself to be?

_____

_____

29. What ethnic group(s), if any at all, is/are most important in terms of the way you currently describe and think about yourself?

_____

_____

30. What was the last year of school you completed?

UNDER 8 GRADES	-01	
SOME HIGH SCHOOL	-02	
HIGH SCHOOL GRADUATE	-03	
VOCATIONAL	-04	
BUSINESS	-05	20-21/99
TECHNICAL	-06	
SOME COLLEGE	-07	
B.A. (UNDERGRADUATE) DEGREE	-08	
GRADUATE WORK	-09	
DON'T KNOW	-88	

31. To what social class do you belong? (READ ANSWER CATEGORIES TO RESPONDENT.)

UPPER	-4	
MIDDLE	-3	22/9
WORKING	-2	
LOWER	-1	

32. What is your marital status?

MARRIED	-1	
SINGLE	-2	→ GO TO Q.34
WIDOWED	-3	23/9
SEPARATED	-4	
DIVORCED	-5	

33. Do you have any children?

NO ☐ 24/9

IF YES: How many are ...

over age 18? _____ 25/9

under age 18? _____ 26/9

preschool age? _____ 27/9

34. What is your age?

_____ 28-29/99

35. What is your occupation? (PROBE FOR ADEQUATE DESCRIPTION AND CHECK APPROPRIATE BOX.)

PROFESSIONAL, TECHNICAL, AND KINDRED WORKER	-01
MANAGER AND/OR ADMINISTRATOR, EXCEPT FARM	-02
SALES WORKER	-03
SERVICE WORKER, EXCEPT PRIVATE HOUSEHOLD	-04
CRAFTSMAN, FOREMAN, AND KINDRED WORKER	-05
PRIVATE HOUSEHOLD WORKER	-06
TRANSPORT EQUIPMENT OPERATIVE	-07
CLERICAL AND KINDRED WORKER	-08
OPERATIVE EXCEPT TRANSPORT	-09 30-31/99
FARM WORKER	-10
OTHER BLUE COLLAR WORKER	-11
LABORER, EXCEPT FARM	-12
HOUSEWIFE	-13
UNEMPLOYED	-14 → GO TO Q.37
RETIRED	-15 → GO TO Q.37
STUDENT	-16
OTHER: (Please specify) _____	-17

56. If you are not the head of household, what does this person do? (USE CATEGORIES FROM Q. 35)

_____ 32-33/99

57. If you are unemployed or retired, what kind of work did you most recently do? (USE CATEGORIES FROM Q. 35)

_____ 34-35/99

58. How interested are you in national politics? (READ ANSWER CATEGORIES TO RESPONDENT.)

VERY INTERESTED	-3	
SOMEWHAT INTERESTED	-2	
A LITTLE INTERESTED	-1	36/9
NOT AT ALL INTERESTED	-0	

59. By and large, would you consider your political views in terms of present usages of the terms to be very liberal, liberal, neither particularly liberal nor conservative, conservative, or very conservative?

VERY LIBERAL	-1	
LIBERAL	-2	
MIDDLE (NEITHER LIBERAL NOR CONSERVATIVE)	-3	37/9
CONSERVATIVE	-4	
VERY CONSERVATIVE	-5	
DON'T KNOW	-8	
NO ANSWER	-9	

HAND RESPONDENT CARD 11.

40. In which of these groups was your total family income for 1975, before taxes? Please include income for all members of this household from all sources. Please just tell me the number category that includes your total family income.

LESS THAN $3,000	-1	
$3,000 - $4,999	-2	
$5,000 - $7,499	-3	
$7,500 - $9,999	-4	38/9
$10,000 - $14,999	-5	
$15,000 - $24,999	-6	
$25,000 AND MORE	-7	
DON'T KNOW	-8	
NO ANSWER	-9	

TAKE BACK CARD 11.

41. What is your religious preference?

PROTESTANT	-1	
ROMAN CATHOLIC	-2	
JEWISH	-3	
AGNOSTIC	-4	39/9
ATHEIST	-5	
OTHER: (Please specify)	-6	

_____

42. How strongly do you feel about your religious beliefs?
(READ ANSWER CATEGORIES TO RESPONDENT.)

VERY STRONGLY	-5	
STRONGLY	-4	
MODERATELY	-3	40/9
NOT SO STRONGLY	-2	
NOT STRONGLY AT ALL	-1	

THANK YOU VERY MUCH.

INTERVIEWER'S NAME: _____

DATE OF INTERVIEW: _____

APPENDIX D

Interviewers and Interviewing Procedures

Opinion Research Corporation

The administration, execution, and maintenance of all field work at top-quality levels is the responsibility of the ORC Interviewing Department.

In addition to conducting the field work for ORC's custom research projects, the ORC Interviewing Department fields, on a regularly scheduled basis, such mass data collection programs as ORC's General Public Caravan Survey, Executive Caravan among top and middle management of the leading U.S. companies, the ORC Corporate Image series, and the Security Analyst series among financial and investment professionals.

A major function of the ORC Interviewing Department is the recruiting, training, and maintenance of the quality of the staff of ORC's national probability sample. The sample is staffed by over 1,200 carefully recruited and training interviewers. In addition, some 300 ORC-hired and trained interviewers operate in communities outside the probability sample and are available for special assignments. Approximately 90% of all interviewers receive their assignments through a local supervisor.

Selected individuals in the interviewing staff are designated as Executive Interviewers, qualified for assignments involving publics consisting of executives, professionals, or specialists in varied fields. In addition, ORC has recruited and trained many special field crews for studies requiring particular skills, qualifications, or techniques, including interviewers fluent in a foreign language.

Interviewer Selection and Training

Interviewers are selected on the basis of having a pleasing personality, a satisfactory command of English, and the ability to follow specific instructions. He or she should not be too aggressive nor too backward; there should be no obvious prejudices; and his attitude toward people should be empathetic.

Prior interviewing experience and/or knowledge of special areas is not necessary. An interviewer with good poise and the ability to follow directions can administer any survey calling for direct questions and the recording of specific answers. If, however, the subject matter is of a sensitive nature (e.g., birth control, interviewing drug addicts, etc.), interviewers are screened and advised of the subject matter to avoid indirect bias of the survey results.

Training of Field Staff

The ORC field staff usually receive their preliminary training in a session conducted by an ORC field representative. Such sessions usually include participation in a mock interview and analysis of situations that develop in the interview, instruction in questionnaire completion procedures and in the use of interviewing techniques such as the probe, a review of sampling procedures, and a discussion of ways to establish rapport with respondents.

The ORC Interviewer's Manual is used in the training sessions and serves also as a permanent source document. The 100-page manual covers research and administrative procedures in detail and is updated periodically.

Interviewer Relations

An interviewer's first formal assignment is carefully analyzed and rated by ORC supervisory personnel in Princeton. Continual follow-up analyses are made during the probationary period.

Reviews are continued for all members of the permanent staff on practically every completed assignment. In the review, the interviewer's work is graded, and a report is made to the interviewer. These reviews cover all interviewers whether they be independent or working through supervisors.

One of the most interesting features of ORC's relationship with its field staff is that, on each study, the interviewer is provided with a phone number to call toll-free for answers to any questions that may arise during the conduct of the study. In this way, ORC is able to maintain personal contact with interviewers and to uncover problems and difficulties at their inception.

ORC enjoys a very favorable relationship with its interviewers for several reasons.

1. ORC provides explicit instructions and questionnaires that are easy to follow.

2. The field staff is informed of new research techniques through periodic memoranda and field meetings.

3. Interviewers are always paid within two weeks of our receipt of their bill for services and expenditures.

Background of Interviewers

A detailed file is maintained on each interviewer, covering background, experience, interviewing assignments, cost performance, availability, impressions of work.

The median length of time our interviewers have been with us is four years. Approximately 80% of our interviewing staff are female; one out of four is a college graduate; and an additional one out of three has had some college training.

Field Supervisors

As indicated earlier, most of ORC's interviewers report to supervisors located in urban and metropolitan areas throughout the country. Virtually all of ORC's 150 field supervisors are personally well known to ORC's vice president in charge of field operations, Sarah Huneycutt. She has come to know the field supervisors through her extensive activities in the Marketing Research Association. (She served as president of that organization during 1971-72.) She meets with most supervisors at least on an annual basis, and she is in phone contact with each of them much more frequently. On the average, these supervisors have been with ORC for more than five years; three out of four have had college training; 97% are female; and they range in age from 30 through 64.

Supervisors are responsible for interviewer training on specific studies (as directed by ORC) and for the day-to-day supervision of interviewers' assignments.

ORC's national probability sample is divided into four geographical areas for monitoring purposes. That is, within the Interviewing Department in Princeton, there is a person whose main responsibility is the maintaining of personal contact and communication with supervisors and independent interviewers within a particular geographical region. Essentially, this means that every person working on an ORC study in the field knows there is a person in Princeton who can be contacted for immediate assistance at any time.

Steps Involved in Fielding a National Study

This description bypasses the area of sample selection since the Interviewing Department's responsibility begins upon receipt of the sample locations.

The sample locations are recorded in a book and are referred to as "controls." These controls provide space for the following entries:

Name of interviewer and/or supervisor

Code number

Rate of pay

Scheduled audit, cost analysis

Date study notification sent

Result of notification (e.g., acceptance, refusal, no response)

Date study materials mailed

Return of "working postcard," indicating assignment received and interviewer proceeding with assignment. If the card is not returned within a reasonable period of time, a telephone call is made.

Date of return of completed assignment

Hours and dollars spent

Number of contacts and result of each

Space for notes during course of field work (e.g., extension granted, change of location, etc.)

The control book is designed to give an up-to-date picture of a study during the entire interviewing period and for later reference, if necessary. It also gives us more flexibility in that each member of the office staff can, at a glance, determine the status of the study.

When the sample locations have been entered in the control book, a member of the Interviewing Department selects an interviewer and/or supervisor for each location. This requires review of the interviewer's file to determine which of the interviewers should be alerted. (Since interviewers work on a part-time basis, it is necessary for us to hire a sufficient number of interviewers to ensure coverage for any given study.) We must be selective in our choice of interviewers since the selection is determined by several factors -- distance from the sample location, availability, capability of handling a specific type of study, frequency of assignments handled, etc. Once the selection has been made, the interviewer's file

is reviewed to ascertain whether an audit should be scheduled. This is determined by number of assignments and/or last grade received. If the review of the interviewer's last assignment was not 100% satisfactory, another audit would be made on her next assignment. (The audit will be covered in more detail later.)

The field staff receives notification of the study by mail. The notification briefly describes the study, type of respondent, length of interview, number of interviews assigned, length of time allowed for completion. The interviewer responds by returning a postcard which was enclosed with the notification. If for some reason an interviewer refuses the assignment, another is selected immediately and, most likely, notified by telephone if time does not permit mail notification. It should be noted at this point that mail (regular and air) notification is usual for a study since it is the least expensive. However, at least two weeks prior to actual sendout of materials is needed. Other methods of notification can certainly be employed, but at greater cost (e.g., special delivery, telegram, telephone.)

In areas where supervisors are selected, each supervisor is provided with a list of the sample areas. Providing the areas in advance allows for selection of interviewers who can most efficiently handle the area. The supervisor makes her selection much the same way we at ORC do.

The actual organization of and packing materials for each location is handled by members of the Interviewing Department. We place great importance on the packing of material because time is of the essence. We cannot afford the delay that could occur if something were omitted from the sendout. During the actual send-out process, each person involved is checked by others periodically to be sure everything is accounted for.

Enclosed in the package is a postcard that is to be returned by the interviewer upon receipt of the materials. If this card is not received within a reasonable length of time, the interviewer is called. The purpose of the card (and/or call) is to assure us that each sample location is being worked on and will be completed within the specified time period.

In addition to initiating phone calls, the Interviewing Department receives calls from the field covering various aspects of the work -- a problem relating to the handling of a specific questionnaire item, a problem with the area assigned, an emergency which requires additional time to complete the work, etc. All members of the department are knowledgeable about each study in the field and can, therefore, answer the question or refer the interviewer to someone on the research staff who can. Interviewers are encouraged to call us station-to-station collect any time they have a question and/or problem that cannot be answered by their study instructions or Interviewer's Manual.

As the completed assignments are received in Princeton, the Interviewing Department begins the check-in procedure.

Assignments Not Scheduled for an Audit

The first step in the check-in procedure is a review of the Interviewer's Report to Study Director. This is a form provided to each interviewer on each of our studies. The interviewer reports any difficulty with the study and indicates whether the difficulty was hers or the respondent's (or both). This report is forwarded to the Director of the project. Next, the Housing Unit Listing Sheet is reviewed to determine whether the interviewer followed the proper route through the assigned housing units at the appropriate time of day for maximum productivity, and listed the respondents' names and phone numbers for verification purposes.

Following this, the interviewer's completed interviews are arranged in order of the addresses listed on the Housing Unit Listing Sheet. First, the face sheet is reviewed to be certain that the face sheet number corresponds with the address on the listing sheet; that the address has been entered on the face sheet as it appears on the listing sheet; the location number has been entered correctly; eligible residents in the household were listed in the proper order and the resident to be interviewed was selected according to instructions; and, finally, whether the interviewer indicated completion of the interview on the first or second call.

The next step is to determine if, in fact, the interview is complete. Then the background information is reviewed for possible omission. If the interview is complete, this is indicated on the Housing Unit Listing Sheet. When this process has been completed for the entire assignment, the results are entered in the controls.

The final step is the review and calculation of charges on the interviewer's time sheet. Here are the points we consider when reviewing the time sheet:

Maximum productivity on first trip to the area

Planning of callbacks for continued maximum productivity

Realistic study*, edit*, and interviewing* time

Realistic travel* time and mileage charges

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*STUDY TIME -- time spent reading the instructions and reviewing the questionnaire.

*EDIT TIME -- time spent checking over the completed work, filing out the time sheet and supplementary reports.

*TRAVEL TIME -- travel time to and from the sample area. It does not include travel time from one housing unit to another within the sample area.

*INTERVIEWING TIME -- includes travel time within a sample area from one housing unit to another and time spent contacting housing units and actually conducting the interview.

Assignments Scheduled for Audit

As mentioned earlier, audits are indicated at the time of interviewer selection. However, it should be understood that any interviewer is subject to an audit if the work does not appear to be up to our standards.

The audit is a detailed review of the interviewer's assignment, including the points covered earlier in the check-in procedure. A form is used for the audit on which we indicate errors made by the interviewer. This form, along with copies of the errors, is returned to the interviewer with our comments. The interviewer is rated and this rating is entered in her file. The audit consists of two ratings -- one for interviewing mechanics and one for sampling. One advantage of this method is that it allows the Field Representative to better plan seminars with the interviewers.

At one point, we graded the interviewer's work with A, B+, etc. But, we realized that some people viewed a "B" rating as very good, while our opinion was that the grade was average. Thus, we now grade by the number system with a brief explanation.

Verification of Interviews

Each supervisor verifies 10% of the interviews completed by each interviewer before they are forwarded to Princeton. Additionally, ORC conducts an independent and additional 10% verification of its own. This is accomplished in one of three ways -- through the mail, by phone, or by a personal visit from an ORC representative. At least 20% of each interviewer's assignment is verified. If an interviewer's performance is suspect, however, 100% of her completed interviews are verified.

Verification consists of determining whether or not an interview has taken place, verifying the respondent's address, verifying key items on the questionnaire, and obtaining any information that has been omitted and/or is not explicit on the questionnaire.

To avoid antagonizing respondents, ORC takes a positive stand for verification purposes. In other words, rather than asking the respondent if she has been interviewed, we tell her that we are calling to thank her for participating. Obviously, we ask other questions to determine if the interviewer conducted the interview, including asking the respondent for his or her address.

APPENDIX E

Opinion Research Corporation Master Sample

Introduction

For over 30 years now, it has been an almost invariable practice to sample human populations for personal interviews by areal methods -- that is, by using maps showing blocks or other small geographic segments for which rough preliminary population estimates can be made.

This method, while quite rigorous in concept, has many difficulties in practice. Most of these difficulties are associated with the great population mobility and rapid growth in this country. For example:

1. Census data ascribing population figures to very small geographic units are usually out of date in the intercensal years. Independent estimates for small geographic areas are generally quite unreliable or nonexistent.

2. Maps are usually either out of date or, in some cases, far ahead of the cultural development of the land. In other cases, the maps may be just too inaccurate, or incomplete, or simply lacking in necessary detail.

3. Even when few or none of these difficulties are found, clerical errors in laying out sample segments and the interviewer's errors in finding these assigned segments from a map and counting households can still be very troublesome -- the combination of errors can often result in significant inaccuracies.

The purpose of the procedures that are described below is to establish a tractable sampling method that avoids these various difficulties, is easily applied and economically efficient, and is statistically unbiased (or so nearly so that the bias is negligible).

In essence, the method is very simple to apply. The basic procedure is as follows:

1. A current telephone directory is specified by each choice of a Primary Sampling Unit (PSU) or Minor Civil Division (MCD) -- the technique is described below.

2. The desired number of starting points for the PSU are selected at random from this directory. These starting points are, of course, listed telephone addresses.

3. An interviewer is directed to a starting point by the specific address given for it in the directory, and is instructed not to conduct an interview in that household.

4. Facing a designated address, an interviewer starts with the household to the left of the starting point, and conducts interviews in that household and each successive adjacent household (whether or not a household has a listed telephone). The particular respondent to be interviewed is specified by a random selection from the eligible inhabitants of the household (e.g., all those 18 years old and older).

5. Weighting procedures must be applied to compensate for any inequalities in probability of selection. The result is an unbiased sample of the population under study.

The General Structure

The master sample of counties, and of primary sampling units within the counties, designed for Opinion Research Corporation by Marketmath, Inc., is in itself a probability sample of the continental United States (excluding Alaska and Hawaii).

The ORC master sample consists of 360 counties, arranged in 6 blocks, with the 60 counties of each block distributed into 6 replications of 10 counties each. Each block is a random sample chosen with probability proportional to size of population (PPS). Prior to the sample selection, all 3070 counties were grouped into the 173 areas designated by the United States Office of Business Economics; these area groupings were then arranged in geographical order from north and east to south and west -- from Maine to California, and within each area the counties were arranged in order of descending population. Random choices were made by systematic sampling in order to ensure representative geographical distribution. The selections were made, and documented, on an IBM 360/65 digital computer.

The master sample of primary sampling units (PSU's) was derived from the selected counties. A PSU is generally defined in the literature as an "interviewing place" -- in this instance, and in the context of this method of sampling, it is a device for initiating and localizing the choice of a "starting point" within each county. Thus, in the ORC sample the PSU is defined as a telephone book. Sample sizes can be adjusted by varying the number of starting points selected at each PSU.

Unless an entire county is covered by a single telephone book, all Minor Civil Divisions (MCD) within each county were listed and described (usually, according to the 1970 U.S. Census). These may be towns,

townships, cities, parts of cities (which are sometimes distributed over more than one county), or simply "remainder" areas (denoted as "outlying districts").

In general, only 1970 U.S. Census population figures are available as a starting basis. However, there have been many significant changes in the intervening years. These figures are therefore compared place by place with current known county and city populations, in order to determine population shift trends. Such trends are extracted; all individual MCD population figures are then appropriately scaled, up or down, to give estimates of the current actual population distribution.

When acceptable estimates of current population distributions among the MCD's of a county have been established, systematic sampling from randomized starts is again used within the county to select a single MCD as the base for a PSU, with probability proportional to size.

The end objective is to designate uniquely a telephone book selected to determine "clusters" of households for interviewing. To ensure that the final sample of interviews is a true probability sample, this process of selecting PSU's was carried out with considerable rigor.

Selection of "Starting Points"

The next step is a random selection of individuals to be interviewed. The general approach is as follows:

1. Each MCD designating a PSU is covered by a telephone book; the required number of starting points are chosen, using randomizing techniques, from the households listed in each such phone book.

2. Each starting point is then used to determine a "cluster" of households (both with and without listed telephones) in which interviews will be conducted.

3. The interviewers, working through a cluster, select individuals to be interviewed from the households of the cluster using a random selection procedure.

4. The interviews obtained are then weighted in the various ways necessary to ensure proper representation in the sample.

For the survey of self-planned learning, 240 PSU's were used for a 1,500-respondent sample -- six or seven interviews per PSU.

Summary of Contacts

	1st Call	Actual 2nd Call
Households contacted	5,493	1,956*
Ineligible households	113	8
Total eligible households	5,380	1,948
Interviews completed	1,033	468
Refusals	828	365
Other barriers	188	80
Households eligible for 2nd call	3,331	

*Not all households eligible for a second call actually receives one, since interviewers are instructed to stop interviewing in a location after completing a specified number of interviews.

"Completion rate" is a difficult concept for which there are numerous definitions. The method by which we compute "completion rate" for the ORC National Probability Sample is as follows:

Let X = Percentage of completed interviews on second call (first callback)

$$= \frac{\text{\# of interviews on second call}}{\text{\# of calls made on eligible households on second call}}$$

Y = # of households still eligible for callback after first call

$$\text{"Completion Rate"} = \frac{\text{\# of interviews first call} + (X)(Y)}{\text{Total \# of eligible households}}$$

For the self-planned learning study, the calculation is as follows:

$$\text{"Completion Rate"} = \frac{1033 + \left(\frac{468}{1948}\right)\left(3331\right)}{5380}$$

$$= \frac{1033 + (.24)\ (3331)}{5380}$$

$$= \frac{1832}{5380} = .34$$

Since the sample plan for this study called for one callback at most (a total of two calls) at any household, the "completion rate" is relatively low compared with that of study designs calling for more than two calls. The sample plan used for this study was designed to be cost-efficient, and it works extremely well in practice.

RESPONSE PATTERNS INVENTORY

(Demographic and Socio-Cultural Characteristics)

Table AA SEX OF RESPONDENT

	Population Sample (N 1501)	Formal Learners (N 283)	Self Learners (N 1142)	Self-Initiating Learners (N 901)	Non-Learners (N 317)
Female	59.2	59.0	60.5	61.1	55.0
Male	40.8	41.0	39.5	38.9	45.0

Table AB RACE OF RESPONDENT

	Population Sample (N 1501)	Formal Learners (N 283)	Self Learners (N 1142)	Self-Initiating Learners (N 901)	Non-Learners (N 317)
Black	7.9	13.4	7.4	6.3	7.5
White	88.6	83.4	89.1	90.4	88.3
Oriental	.8	.4	1.1	1.2	.0
Spanish	2.7	2.8	2.5	2.1	4.2

Table AC MARITAL STATUS OF RESPONDENT

	Population Sample (N 1501)	Formal Learners (N 283)	Self Learners (N 1142)	Self-Initiating Learners (N 901)	Non-Learners (N 317)
Married	68.2	62.5	69.8	71.9	62.9
Single	14.7	28.3	16.7	13.3	7.2
Widowed	10.8	3.5	7.8	8.9	22.1
Separated	2.3	2.5	2.1	2.0	2.9
Divorced	3.9	3.2	3.5	3.7	4.8
DK/NA	.1	.0	.1	.1	.0

Table AD AGE OF RESPONDENT

	Population Sample (N 1501)	Formal Learners (N 283)	Self Learners (N 1142)	Self-Initiating Learners (N 901)	Non-Learners (N 317)
18-24	15.3	28.8	18.7	14.9	4.7
25-32	19.6 (34.9)	29.3 (58.1)	22.0 (40.7)	20.2 (35.1)	9.0 (13.7)
33-44	20.9	22.1	22.4	22.3	17.0
45-54	12.9	10.0	12.6	13.6	13.1
55-64	13.4	5.5	11.6	13.6	21.2
65-over	16.8	3.5	12.2	14.1	33.0
DK/NA	1.1	.8	.9	.9	2.0

Table AE ROLE OF RESPONDENT

	Population Sample (N 1501)	Formal Learners (N 283)	Self Learners (N 1142)	Self-Initiating Learners (N 901)	Non-learners (N 317)
Husband	36.8	32.2	34.5	35.3	44.0
Wife	53.2	49.5	54.8	56.3	48.9
Single Male	.6	1.1	.7	.7	.0
Single Female	.9	1.4	.9	.8	1.0
Son	3.4	7.8	4.1	2.8	1.3
Daughter	2.9	6.0	3.3	2.6	1.0
Mother of Head	.3	.4	.2	.1	1.0
Mother in Law	.3	.0	.1	.1	1.0
Other Relative	1.4	1.8	1.3	1.2	1.6
DK/NA	.2	.0	.1	.1	.3

Table AF HAVE CHILDREN

	Population Sample (N 1501)	Formal Learners (N 283)	Self Learners (N 1142)	Self-Initiating Learners (N 901)	Non-Learners (N 317)
No	19.1	19.4	18.8	18.3	20.8
Yes	68.9	58.7	67.5	70.6	73.0
DK/NA	12.0	21.9	13.7	11.1	6.2

Table AG NUMBER OF CHILDREN OVER 18

	Population Sample (N 1501)	Formal Learners (N 283)	Self Learners (N 1142)	Self-Initiating Learners (N 901)	Non-Learners (N 317)
0	34.8	39.6	37.7	37.0	24.1
1	10.9	7.1	8.7	9.7	17.9
2	10.5	6.0	10.2	11.3	11.1
3	6.5	3.2	6.2	7.2	7.8
4	3.7	2.5	3.0	3.2	5.9
5	1.7	.4	1.4	1.8	2.6
6	.9	.0	.5	.7	2.3
DK/NA	31.2	41.3	32.2	29.1	28.3

Table AH NUMBER OF CHILDREN UNDER 18

	Population Sample (N 1501)	Formal Learners (N 283)	Self Learners (N 1142)	Self-Initiating Learners (N 901)	Non-Learners (N 317)
0	34.2	24.7	30.9	33.4	44.6
1	11.9	12.0	11.9	11.7	11.4
2	12.9	13.1	14.2	14.7	8.1
3	6.2	5.3	6.6	6.7	5.2
4	2.3	2.5	2.5	2.5	1.6
5	1.1	.4	1.1	1.3	1.3
6	.7	.7	.6	.6	1.0
DK/NA	30.8	41.3	32.2	29.1	26.7

Table AI NUMBER OF PRESCHOOL CHILDREN

	Population Sample (N 1501)	Formal Learners (N 283)	Self Learners (N 1142)	Self-Initiating Learners (N 901)	Non-Learners (N 317)
0	52.7	37.5	49.7	53.9	62.9
1	11.8	14.1	13.4	12.8	6.8
2	4.4	6.0	4.5	4.3	3.3
3	.5	1.1	.5	.4	.3
4	.1	.4	.1	.0	.0
DK/NA	30.5	41.0	31.8	28.6	26.7

Table AJ FAMILY INCOME

	Population Sample (N 1501)	Formal Learners (N 283)	Self Learners (N 1142)	Self-Initiating Learners (N 901)	Non-Learners (N 317)
1. Less than $3,000	6.5	4.6	4.8	5.3	12.4
2. $3,000 to $4,999	8.8	4.9	6.9	7.4	16.6
3. $5,000 to $7,499	9.3	7.4	8.8	9.2	9.8
4. $7,500 to $9,999	9.9	8.8	10.2	10.1	8.8
5. $10,000 to $14,999	21.5	24.0	23.2	23.0	16.0
6. $15,000 to $24,999	22.7	27.6	25.7	24.7	12.7
7. $25,000 or more	9.8	14.8	11.3	10.2	4.2
DK/NA	11.6	7.8	9.1	10.2	19.5

Table AK HIGHEST LEVEL OF EDUCATION

	Population Sample (N 1501)	Formal Learners (N 283)	Self Learners (N 1142)	Self-Initiating Learners (N 901)	Non-Learners (N 317)
1. Under 8 Grades	12.3	2.1	7.7	9.6	29.6
2. Some High School	17.9	8.1	16.0	18.6	24.1
3. High School Grad	29.9	19.4	30.6	33.6	29.3
4. Vocational	2.3	2.8	2.5	2.5	1.0
5. Business	2.6	4.6	2.9	2.3	1.3
6. Technical	1.6	3.5	1.7	1.2	1.0
7. Some College	16.2	27.9	18.6	15.7	7.8
8. College Degree	9.2	15.5	10.9	9.2	3.3
9. Grad Work	7.9	15.9	9.1	7.3	2.3
DK/NA	.2	.0	.1	.1	.3

Table AL OCCUPATION OF RESPONDENT

	Population Sample (N 1501)	Formal Learners (N 283)	Self Learners (N 1142)	Self-Initiating Learners (N 901)	Non-Learners (N 317)
1. Professional Technician	15.3	29.3	18.0	14.5	4.2
2. Manager Administrator	5.0	7.4	5.6	5.0	2.9
3. Sales Work	3.1	5.3	3.4	2.8	2.0
4. Service Worker	4.4	3.2	4.4	4.6	4.6
5. Craftsman Foreman	6.3	5.7	6.2	6.7	5.9
6. Private Household Work	.7	1.1	.8	.8	.3
7. Transport Operator	1.4	.4	1.4	1.7	1.6
8. Clerical	5.7	8.5	6.3	5.1	3.6
9. Other Operator	1.6	.4	1.3	1.5	2.9
10. Farm Worker	1.1	.7	.8	.9	2.3
11. Other Blue Collar	2.1	2.1	1.8	2.0	2.6
12. Laborer	2.6	2.5	2.1	2.0	4.6
13. Housewife	28.8	16.6	28.4	32.1	31.9
14. Unemployed	3.5	4.6	3.6	3.4	2.9
15. Retired	14.7	3.9	11.9	13.8	26.1
16. Student	2.2	6.7	2.9	1.6	.0
17. Other	1.3	1.4	1.2	1.2	1.3
DK/NA	.3	.4	.3	.3	.3

Table AM PREVIOUS JOB IF UNEMPLOYED OR RETIRED

	Population Sample (N 1501)	Formal Learners (N 283)	Self Learners (N 1142)	Self-Initiating Learners (N 901)	Non-Learners (N 317)
1. Professional technician	2.9	1.1	2.9	3.2	4.9
2. Manager Administrator	1.5	.7	1.5	1.7	1.3
3. Sales Worker	1.2	.7	1.4	1.7	2.9
4. Service Worker	2.1	2.1	1.7	1.8	1.6
5. Craftsman Foreman	2.4	.7	1.7	1.9	9.1
6. Private Household Work	.1	.0	.1	.1	.0
7. Transport Operator	.3	.0	.4	.6	1.6
8. Clerical	2.2	1.8	2.2	2.3	1.0
9. Other Operator	1.9	.7	1.0	1.0	2.0
10. Farm Worker	1.6	.4	1.1	1.2	2.0
11. Other Blue Collar	.2	.0	.2	.2	.7
12. Laborer	1.5	.4	1.0	1.1	2.6
13. Housewife	.6	.4	.5	.6	.7
14. Unemployed	.0	.0	.0	.0	.3
15. Retired	.1	.0	.1	.2	8.1
16. Student	.1	.0	.1	.1	.0
17. Other	.2	.0	.2	.2	.7
DK/NA	81.0	91.2	84.1		60.6

Table AN HOW MANY TIMES MOVED SINCE 18 YEARS OLD

	Population Sample (N 1501)	Formal Learners (N 283)	Self Learners (N 1142)	Self-Initiating Learners (N 901)	Non-Learners (N 317)
0	7.1	13.8	7.5	6.2	4.2
1	9.2	9.9	9.0	8.9	9.4
2	14.0	12.4	14.3	14.4	13.4
3	16.3	15.9	16.7	16.8	15.3
4	12.3	10.3	11.7	11.7	14.3
5	9.2	9.5	9.0	8.8	10.4
6	8.1	8.8	8.0	7.8	8.8
7	3.8	2.8	3.9	4.4	3.3
8	3.7	2.1	4.0	4.5	2.9
9	1.3	2.1	1.1	1.0	1.6
10	4.3	4.2	4.1	4.0	5.2
11-15 times	4.8	3.3	4.5	4.8	5.2
16-20 times	2.7	3.3	3.2	3.0	1.3
21-25 times	.9	.8	.9	.9	.3
26 and over	1.5	.4	1.5	1.6	1.3
DK/NA	1.3	.0	.9	.9	2.9

Table AO HOW LONG LIVED IN COMMUNITY

	Population Sample (N 1501)	Formal Learners (N 283)	Self Learners (N 1142)	Self-Initiating Learners (N 901)	Non-Learners (N 317)
Less than 1 year	9.3	12.0	9.5	8.8	8.5
1-5 years	23.7	28.6	25.4	24.4	16.6
6-10 years	12.7	16.6	14.4	13.2	7.2
10 and over	54.3	42.8	50.6	53.6	67.4
DK/NA	.1	.0	.0	.0	.3

Table AP WHERE LIVED AS CHILD

	Population Sample (N 1501)	Formal Learners (N 283)	Self Learners (N 1142)	Self-Initiating Learners (N 901)	Non-Learners (N 317)
Town	29.5	33.2	31.7	30.8	22.5
City	44.4	49.1	45.1	44.1	40.1
Farm	26.0	17.7	23.0	24.9	36.8
DK/NA	.1	.0	.2	.2	.0

Table AQ HOW LARGE CHILDHOOD TOWN OR CITY

	Population Sample (N 1501)	Formal Learners (N 283)	Self Learners (N 1142)	Self-Initiating Learners (N 901)	Non-Learners (N 317)
Under 1,000	4.8	2.8	5.0	5.6	4.2
1,000-2,499	3.7	3.2	3.7	3.7	4.6
2,500-4,999	3.5	3.2	3.6	3.7	3.3
5,000-9,999	7.7	10.2	8.3	7.7	5.2
10,000-49,999	16.2	18.7	17.4	17.0	11.1
50,000-99,999	10.8	10.2	11.2	11.2	10.4
100,000 or over	27.1	32.2	27.4	26.2	25.1
DK/NA	26.1	19.5	23.4	24.9	36.1

Table AR OFFICER OF ORGANIZATION IN PAST YEAR

	Population Sample (N 1501)	Formal Learners (N 283)	Self Learners (N 1142)	Self-Initiating Learners (N 901)	Non-Learners (N 317)
No	40.0	42.8	41.2	40.9	34.2
Yes	20.5	29.0	22.8	20.7	12.1
DK/NA	39.4	28.3	36.0	38.4	53.8

Table AS VOLUNTEERED DURING LAST YEAR

	Population Sample (N 1501)	Formal Learners (N 283)	Self Learners (N 1142)	Self-Initiating Learners (N 901)	Non-Learners (N 317)
No	61.3	49.5	53.9	55.8	87.0
Yes	38.0	50.2	45.2	43.2	13.0
DK/NA	.7	.4	.9	1.0	

Table AT SOCIAL CLASS OF RESPONDENT

	Population Sample (N 1501)	Formal Learners (N 283)	Self Learners (N 1142)	Self-Initiating Learners (N 901)	Non-Learners (N 317)
Lower	6.7	2.8	4.8	5.4	14.7
Working	34.8	31.8	34.2	35.1	36.5
Middle	53.4	59.0	55.1	53.8	45.9
Upper	4.5	5.3	5.3	5.3	1.6
DK/NA	.7	1.1	.7	.4	1.3

Table AU DEGREE OF INTEREST IN POLITICS

	Population Sample (N 1501)	Formal Learners (N 283)	Self Learners (N 1142)	Self-Initiating Learners (N 901)	Non-Learners (N 317)
Not at All	13.7	9.2	10.9	11.6	24.4
Little Interest	21.7	14.1	20.5	22.0	26.7
Somewhat Interested	34.4	41.3	36.6	35.5	25.7
Very Interested	30.2	35.3	32.0	30.9	23.1
DK/NA	.0	.0	.0	.0	.0

Table AV TYPE OF POLITICAL VIEW

	Population Sample (N 1501)	Formal Learners (N 283)	Self Learners (N 1142)	Self-Initiating Learners (N 901)	Non-Learners (N 317)
Very Liberal	3.8	6.0	4.0	3.4	3.3
Liberal	19.3	25.8	20.4	18.7	15.3
Middle Road	35.8	34.6	36.6	36.9	32.6
Conservative	25.6	26.1	26.0	26.2	23.8
Very Conservative	3.8	1.4	3.7	4.4	4.2
DK/NA	11.7	6.0	9.3	10.5	20.8

Table AW RELIGIOUS PREFERENCE

	Population Sample (N 1501)	Formal Learners (N 283)	Self Learners (N 1142)	Self-Initiating Learners (N 901)	Non-Learners (N 317)
Protestant	60.5	56.9	58.9	60.5	63.5
Catholic	27.4	24.4	27.2	27.2	30.9
Jewish	2.2	2.8	2.5	2.2	1.3
Agnostic	2.3	6.0	2.4	1.3	1.6
Atheist	1.0	2.1	1.3	1.0	.0
Other	6.3	7.4	7.4	7.4	2.6
DK/NA	.3	.4	.4	.3	.0

Table AX STRENGTH OF RELIGIOUS PREFERENCE

	Population Sample (N 1501)	Formal Learners (N 283)	Self Learners (N 1142)	Self-Initiating Learners (N 901)	Non-Learners (317)
Not Strong At All	6.2	7.1	6.6	6.3	5.5
Not So Strongly	7.5	8.8	7.7	7.0	6.2
Moderately	27.0	25.4	27.7	28.3	25.7
Strongly	22.4	22.3	21.8	21.9	23.8
Very Strongly	36.2	36.0	35.7	35.8	38.1
DK/NA	.6	.4	.6	.6	.7

Table AY

CHARACTERISTICS WHICH RESPONDENTS ADMIRE/

DISLIKE IN OTHER PEOPLE -- POPULATION SAMPLE

CATEGORY	ALWAYS ADMIRE	DEPENDS	ALWAYS DISLIKE
Having a strong intellectual curiosity	70.6	26.3	3.2
Developing an appreciation of the fine arts -- music, drama, literature, and ballet	58.1	33.9	8.0
Having an active interest in all things scholarly	57.0	38.9	4.1
Having a keen interest in international, national, and local affairs	52.9	44.8	2.7

Table AZ

CHARACTERISTICS WHICH RESPONDENTS ADMIRE/

DISLIKE IN OTHER PEOPLE -- CONTINUING LEARNERS

CATEGORY	ALWAYS ADMIRE	DEPENDS	ALWAYS DISLIKE
Having a strong intellectual curiosity	76.1	22.1	1.8
Developing an appreciation of the fine arts -- music, drama, literature, and ballet	62.0	34.1	4.0
Having an active interest in all things scholarly	49.8	46.9	3.3
Having a keen interest in international, national, and local affairs	49.3	46.7	4.0

Table BA

CHARACTERISTICS WHICH RESPONDENTS ADMIRE/

DISLIKE IN OTHER PEOPLE — SELF-LEARNERS

CATEGORY	ALWAYS ADMIRE	DEPENDS	ALWAYS DISLIKE
Having a strong intellectual curiosity	71.4	26.0	2.6
Developing an appreciation of the fine arts -- music, drama, literature and ballet	58.5	33.2	8.3
Having an active interest in all things scholary	55.2	40.8	4.0
Having a keen interest in international, national and local affairs	49.3	47.7	3.1

Table BB

CHARACTERISTICS WHICH RESPONDENTS ADMIRE/

DISLIKE IN OTHER PEOPLE -- SELF-INITIATING LEARNERS

CATEGORY	ALWAYS ADMIRE	DEPENDS	ALWAYS DISLIKE
Having a strong intellectual curiosity	68.0	26.6	2.8
Having an active interest in all things scholarly	55.4	38.4	4.1
Developing an appreciation of the fine arts -- music, drama, literature and ballet	55.0	32.2	9.3
Having a keen interest in international, national and local affairs	48.1	46.1	2.9

Table BC

CHARACTERISTICS WHICH RESPONDENTS ADMIRE/

DISLIKE IN OTHER PEOPLE -- NON-LEARNERS

CATEGORY	ALWAYS ADMIRE	DEPENDS	ALWAYS DISLIKE
Having a strong intellectual curiosity	66.8	27.9	5.4
Having an active interest in all things scholarly	65.0	30.7	4.2
Having a keen interest in international, national and local affairs	63.9	34.6	1.4
Developing an appreication of the fine arts -- music, drama, literature, and ballet	57.5	36.0	6.5